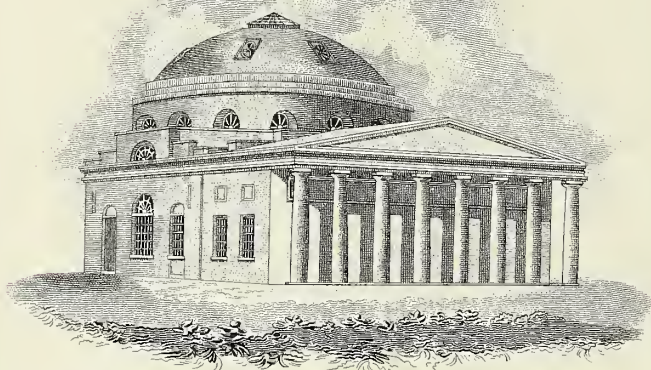
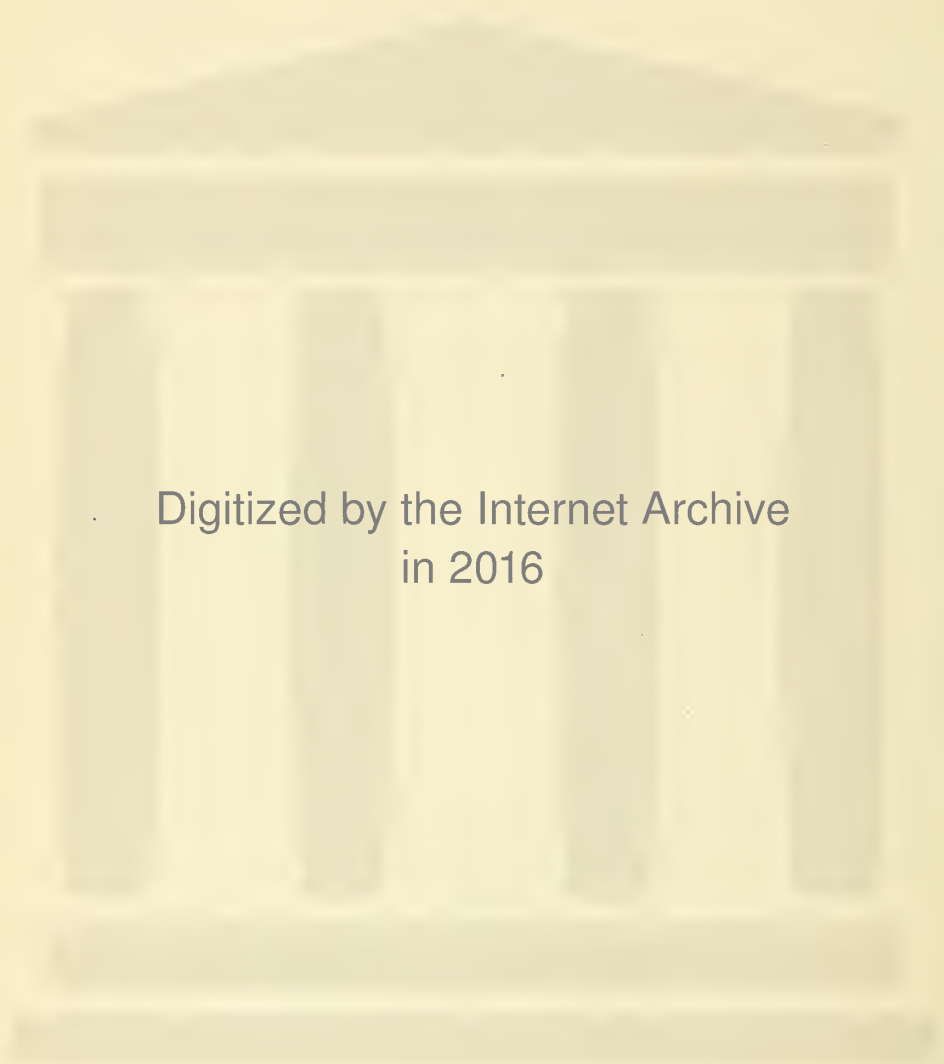


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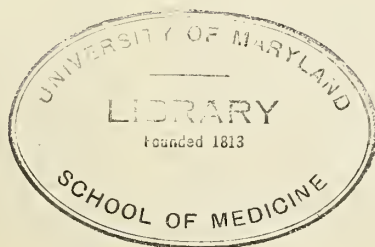
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No. 1

ORIGINAL ARTICLES

PROBLEMS OF CHRONIC ARTHRITIS*

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Cleveland, Ohio

The use of the term "rheumatism" by clinicians has caused a great deal of confusion among physicians. It is not synonymous with arthritis, which includes all the inflammations of the joint, or with arthropathy, which comprises all joint diseases. It does not include gout, which is a disorder of metabolism accompanied by joint symptoms which are usually acute but may become chronic, nor does it include the chronic joint disturbances occurring in hemophilia and certain diseases of the nervous system. Likewise, those disorders are excluded which are the result of the localization in the joints of certain bacteria such as the tubercle bacillus, the gonococcus, the staphylococcus and other bacteria of specific type. In the latter group the lesion is a septic process best designated as specific infective arthritis, which is usually primarily an acute infection but may become chronic. The joint lesions are metastatic expressions of a blood-borne infection and the joints, at least during the acute stage, harbor the specific bacteria which incite typically a purulent effusion. It is evident also that joint disorders resulting from trauma alone, in which the lesion is local, should not be called rheumatism.

If one excludes gout, the arthropathies secondary to lesions of the central nervous system and similar disturbances, specific infectious arthritis, and traumatic arthritis, there remains a great group of chronic joint diseases which are designated "chronic rheumatism." This is a constitutional or generalized disease accompanied by joint manifestations. The

word "constitutional" should be stressed. It is defined by Webster as "belonging to, or inherent in the constitution or structure of body or mind."

ECONOMIC SIGNIFICANCE

Few physicians realize the economic significance of chronic joint disease. Rheumatic disease comes third in the list of diseases for which physicians were consulted by the 15,000,000 insured industrial workers in Great Britain in 1927. Only bronchitis and diseases of the digestive system occurred with greater frequency. In the same year the British Ministry of Health paid out \$25,000,000.00 in benefits for disability due to rheumatic diseases, representing a disability period of nearly 6,000,000 weeks.

In Sweden chronic rheumatism causes permanent invalidity in 9.1 per cent of cases. Every year 1,500 people are granted permanent invalidism payment as a result of rheumatism. In Austria upwards of two million Austrian shillings were paid to rheumatic patients in 1925 because of invalidism. In Switzerland, in 1927, 11.4 per cent of the total disability benefit which was granted was paid to rheumatic patients, and roughly, twice as many cases of permanent invalidism were due to rheumatism as were due to tuberculosis. The number of rheumatic patients in Hungary is estimated at 200,000 a year. Of the 7,297 permanent invalids in Denmark in 1923, 1,700 were suffering from chronic rheumatism. In Norway the number of invalids from rheumatism is estimated at one in 300 of a total population of 2,700,000.

Exact figures regarding the economic significance of rheumatism in the United States are not available in all cases. Pemberton¹ states that chronic arthritis was occurring at the rate of 60,000 cases yearly in the United States army at the time of the armistice. About one of every 14 patients at the Mayo clinic in 1928 had one

*Read before the 75th annual meeting of the Kansas Medical Society at Lawrence, Kansas, May 2, 3 and 4, 1933.

of the rheumatic diseases which constituted a primary or a secondary diagnosis.² From recent surveys the Massachusetts State Department of Health estimates that there are at the present time in the State of Massachusetts, which has a total population of 4,380,000, 10,000 cases of cancer, 25,000 cases of tuberculosis, 85,000 cases of heart disease, and 150,000 cases of rheumatism. Every physician knows numerous patients who are unable to be productive members of society or are an economic burden on account of rheumatic disabilities. The full capacity for work of many others is seriously interfered with.

There has been little organized interest in rheumatism in the United States. Clinics for study and treatment of the disease have been organized here and there, but relatively little general interest has been shown by physicians. No problem in medicine is more difficult to handle or taxes more the ingenuity of the clinician; no disease touches on more fields in medicine or requires more careful team work in determining the cause and treatment. Two years ago an American committee, under the chairmanship of Dr. Ralph Pemberton, of Philadelphia, was selected to cooperate in an international movement for the study of rheumatism. This committee has held a number of meetings with the purpose of making plans to interest groups and individuals in the study of rheumatism, in promoting the organization of clinics and other facilities for the treatment of the disease, and for the stimulation of general interest among the laity as well as the medical profession.

CLASSIFICATION OF TYPES OF CHRONIC RHEUMATISM

Much of the confusion concerning rheumatism is due to the multiplicity of terms used in describing the disease and to the widely varying classifications of types. Osgood³ has well reviewed the question of nomenclature and pointed out the important landmarks in the attempts at classification. An etiologic classification is always the most desirable one, but this is impossible in the case of rheumatism because of the multiplicity of factors in etiology and the frequent doubt as to inciting causes of the disease. There is also

no satisfactory clinical grouping. The best classification which is now available is based on the two fundamental pathologic changes occurring in the joint and investing tissues, and this classification coincides fairly well with clinical experience.

Nichols and Richardson⁴ reported in 1909 the results of a careful pathologic study of fresh specimens of the joint tissues removed at operation and at autopsy in cases of chronic deforming arthritis. They recognized two great types. The earliest tissue change in one of these types is a proliferation of the synovial membrane and small round cell infiltration, with no marked changes in the articular cartilage or underlying bone. With the progression of the disease there is erosion of the articular cartilage as the granulation tissue extends over the joint surface, and finally there is bony ankylosis. Atrophy of the trabeculae is a striking feature. Nichols and Richardson spoke of this type of rheumatism as "*proliferative*."

The second type is characterized by a primary fibrillation or splitting of the joint cartilage and a later development of cartilagenous and bony overgrowths with little evidence of inflammatory changes in the cartilage of synovial membrane. The end result in this type is a loss of articular surfaces. Corresponding to the areas of eroded cartilage and bone, there takes place on the exposed articular surface a compensatory overgrowth of cartilage or bone which tends to keep the joint surface in contact. True bony ankylosis never occurs. Nichols and Richardson recognized a degenerative process as the fundamental factor and spoke of this type of rheumatism as "*degenerative*." They concluded that "these two types do not correspond to two definite diseases, but each represents reaction of the joint tissues to a considerable variety of causes."

Even before the existence of two primary pathologic types had been demonstrated, Goldthwaite had recognized two clinical types corresponding to the later work of Nichols and Richardson. The proliferative type he designated as *atrophic* since the constant and usually early characteristic as demonstrated by the roentgenogram is an atrophy of bone structure

with later atrophy of articular cartilage. The second type, designated "degenerative" by Nichols and Richardson, was called *hypertrophic arthritis* by Goldthwaite since hypertrophy of the bone seemed to be the only outstanding characteristic of the disease. Roentgenograms revealed little calcified spicules at the junction of articular cartilage and bone. In England the terms "atrophic arthritis" and "osteo-arthritis," which were introduced by Garrod in 1890, are used to designate these two types.

For the purpose of the present discussion all cases of chronic rheumatism may be classified as of the two types just mentioned—artrophic and hypertrophic. Other types of chronic joint disease such as gout or specific infective arthritis can be similarly classified pathologically. The specific infections cause a proliferative lesion, or the clinical atrophic type; the lesions secondary to central nervous system disease and gout result in a degenerative or a hypertrophic type.

The various classifications may be summarized as follows:

Author	Classification Based on	Types
Garrod (England)	Clinical data	(1) Rheumatoid arthritis (2) Osteo-arthritis
Goldthwaite (America)	Clinical and roentgenologic data	(1) Atrophic and (2) Hypertrophic
Nichols and Richardson (America)	Pathologic data	(1) Proliferative and (2) Degenerative

FUNDAMENTAL FACTORS IN THE ETIOLOGY OF CHRONIC RHEUMATISM

Chronic rheumatism is primarily a generalized or systemic disease. It is markedly influenced by factors which affect the body as a whole. There is always poly-articular involvement even though only one joint may show symptoms. Usually there is involvement of other tissues also, such as the muscles, tendons and nerves. The immediate cause of symptoms is a disturbance in the physiology of the joint.

Often there is a variation from the normal in the local metabolism which affects joint tissue as well as the tissue in other parts of the body. In the hypertrophic

type of rheumatism the basal metabolic rate is usually below normal; in the atrophic type it may be either increased or decreased. Metabolic studies⁵ show also an increased loss of calcium in the atrophic type and a retention of calcium in the hypertrophic type. Most important of all, there is marked impairment of capillary circulation with a consequent denial of normal contact of the blood with muscle and joint tissue. Pemberton⁶ has shown that this circulatory disturbance is responsible for a delayed removal of glucose from the blood stream. This is shown best by glucose tolerance tests. The disturbance in circulation in the extremities in the atrophic type is easily demonstrated in the peripheral capillaries of the finger. The surface temperature in this type of case is also below normal and the individual does not react normally to change in temperature.⁷ Pemberton has been able to produce typical hypertrophic changes in the patella of a dog by impairing the circulation. Thus it seems quite possible that in both types circulatory changes may be the basis of the joint disturbance, although the mechanism of the change in the two types may be quite different. In the atrophic type all the tissues of the body are involved in addition to joint involvement; in the hypertrophic type the disturbances in circulation may be a localized expression of a generalized disturbance.

There is no one cause for chronic rheumatism. Perhaps most cases result from the interplay of several factors. The soil is often prepared for the disease or the symptoms are precipitated by exposure to cold or wet, fatigue of body or mind, or ill health from other causes. Certain possible factors in the two major types of chronic rheumatism may be discussed more fully.

ATROPHIC TYPE

1. *Infection*: This is a most important factor in the causation of the atrophic type. Every clinician sees patients who show a marked improvement or complete recovery following the removal of infection in teeth, tonsils, sinuses, prostate, or cervix. Other foci of infection such as the gallbladder occasionally give rise to the disease. Many patients show no improve-

ment after an apparently complete eradication of foci of infection. In some cases this is probably due to remaining infection, but often the absence of clinical improvement shows that factors other than infection have produced the disease. There certainly is not conclusive evidence to show that one specific organism is the etiologic factor, even in cases which are definitely of bacterial origin.

Every patient with atrophic rheumatism should, however, have all foci of infection removed, but this should be considered the beginning and not the end of the treatment. Even if infection does initiate an arthritis it may have nothing to do with the carrying on of the pathologic process.

2. *Heredity*: The factor of faulty heredity is at times apparent. Heredity may influence the chemical constitution of the body, or what is even more important, the physical make-up. Heredity can, however, only determine whether the individual is susceptible to the disease.

HYPERTROPHIC TYPE

1. *Disturbance of Metabolism*: Hypertrophic rheumatism is often associated with other conditions which we consider due to faulty body chemistry such as obesity, arteriosclerosis and essential hypertension. It frequently occurs at the menopause. There is much evidence to suggest that the symptoms of this form of rheumatism represent an accentuation of the normal aging process. The joint tissues do not have the normal resistance to wear and tear at this time.

2. *Trauma*: Trauma must be a most important factor since the weight-bearing joints are the ones primarily involved. Any undue strain will hasten the fibrillation of cartilage and the forming of later lesions. Trauma alone should, however, not cause this change unless the normal resistance of the cartilage to erosion is lowered.

3. *Infection*: Infection probably plays no primary part in hypertrophic rheumatism from the standpoint of localization of bacteria in the joints, although bacteria may occasionally localize in a joint which is already damaged. At times an infection such as pneumonia acts as an etiologic factor by initiating a disturbance in meta-

bolism with consequent alteration in body chemistry.

Precipitative factors are much less important in the hypertrophic than in the atrophic form.

SYMPTOMATOLOGY

The symptoms and clinical picture of rheumatism are too well known to every clinician to need description. The atrophic type occurs from infancy to middle age, women being more susceptible than men. It occurs almost always in the thin, asthenic, ptotic type of individual. The onset of the disease may be acute or insidious. The patient usually tires easily and is often anemic; the circulation is usually poor, as evidenced by cold and clammy hands and the absence of superficial veins. The joints are swollen and contain an excess of fluid and pain is usually severe. As the disease progresses, stiffness, deformity often with bony ankylosis, and marked muscle atrophy occur.

Early in the course of the disease there is a loss of lime salts in the bone as shown by roentgenographic examination. Later there is definite bone atrophy, narrowed articular space, subluxation, and ankylosis.

The hypertrophic type presents a very different picture. The patient is usually past middle age, is robust and well nourished. The history of the disease is one of slow onset and slow progress and there are few symptoms referable to the disease except the joint disability. There is very little swelling of the joints and the pain and disability are slight. Muscle atrophy does not occur. The roentgenogram shows the characteristic lipping or marginal hypertrophy of the bone, which is best shown clinically by the presence of Heberden's nodes. Bony ankylosis never occurs, although there may be a fixation of joints due to contact of the hypertrophied bone with opposing joint surfaces. The fatigue and anemia which are present in the atrophic type of case are absent in the hypertrophic type.

TREATMENT

The points already discussed should emphasize the necessity for a thorough survey of the patient before treatment is attempted. All factors which may possibly enter into the production of the disease

COMPARISON OF ATROPHIC AND HYPERTROPHIC TYPES OF CHRONIC RHEUMATISM
(PEMBERTON)

Atrophic Type	Hypertrophic Type
Age of onset usually below age of 40	Age of onset usually after age of 40
Patients often of asthenic build	Patients often of robust build
Onset usually slow but may be sudden	Onset always slow
Usually multiple involvement	Often symptomatically a single joint is involved
Systemic reaction may be profound	Slight systemic reaction
Large effusions common	Slight effusion uncommon
Appearance of joints tends to atrophy	Appearance of joints tends to hypertrophy
Ankylosis may supervene	Bony ankylosis does not occur

must be evaluated and corrected. Patients with rheumatism have suffered often from a too narrow point of view as to etiology and treatment. One patient has teeth extracted, another has his tonsils removed, the colon of another is irrigated. Perhaps he needed none of these; perhaps he required all three or even more. No disease in medicine requires a broader point of view in regard to treatment—there is no single panacea.

Atrophic Type: All obvious foci of infection should be removed. The removal of infection should be only the beginning, not the end of the treatment. Faulty alimentation should be corrected by the use of dilute hydrochloric acid in cases of anacidity, a high vitamin and low carbohydrate diet by laxatives and occasionally by irrigations of the colon. Physiotherapy is advisable for its local effect on the joint and for the general effect on the circulation. Active motion of the joint is desirable. Transfusion is often of the greatest aid as are also certain drugs such as arsenic and iodine. The institution of non-specific protein therapy or autogenous vaccine therapy is valuable.

Special exercises should be given to increase the vital capacity of the patient to improve the intrathoracic and the intra-abdominal circulation and to relieve the ptosis.

After the disease process has been arrested, orthopedic surgery may do much to relieve the deformities and limitation of motion.

Hypertrophic Type: Stimulation of metabolism and removal of the metabolic overload is the primary indication in treatment. Reduction in weight is indicated if the patient is over normal weight, therefore the diet should be low in carbohydrate and high in vitamin. Physiotherapy should be employed in the same

way as in the case of the atrophic type. Certain drugs are useful, especially thyroid extract and iodine derivatives. Laxatives are often indicated. Rest and protection of the joints is very necessary and orthopedic measures designed to prevent any unnecessary strain should be employed.

CONCLUSIONS

1. Chronic rheumatism is best defined as a constitutional or generalized disease accompanied by joint manifestations.
2. From an economic standpoint, chronic rheumatism is of the greatest significance on account of its frequency and the disability, and in many cases permanent invalidism resulting from the disease.
3. From the clinical as well as the pathologic point of view, the disease may be classified as of two types—atrophic rheumatism and hypertrophic rheumatism.
4. The fundamental factor in both types is probably a disturbance in the capillary circulation.
5. Various etiologic factors lead to the circulatory disturbance.
6. The treatment of chronic rheumatism should not be limited to any one method, but should include every aid possible which may bring about the recovery of the patient.

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—R— CONGENITAL HYPERTROPHIC PYLORIC STENOSIS*

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In considering the subject of congenital hypertrophic pyloric stenosis it is not my intention to include pyloric spasm in the discussion. While it may or may not be true that spasm is partly responsible for the stenosis it is only of stenosis we are speaking today.

According to the literature, Dr. Geo. Armstrong of England reported the first case in 1777, which was proven by autopsy; this being the third similar case in the same family. Only an occasional case was reported for the next hundred years, but in 1910, 598 case reports were collected and since this time hundreds of cases have occurred—in fact Graham Mitchell says it is so common physicians have ceased reporting cases. There is a general concensus of opinion the condition is becoming much more prevalent.

The pathological anatomy—the pylorus elongated, thickened, shows white through the mucus membrane covering it and has the consistency of cartilage, and may be from one-fifth to one-half inch thick. Section shows great thickening of the muscular wall, especially the circular fibres.

The cause is yet unknown. There have been many theories advanced: 1, that the hypertrophy is the result of muscular spasm, and 2, that it is an intra-uterine abnormality due to irritation of amniotic fluid. Dr. Neff, of Kansas City, recently said he thought it due to an allergic reaction. It is more frequent in boys—about 65 to 35.

I would like to quote from a recent paper by Moore and Brodie of Portland, Oregon, who are working on a theory that the condition is due to lack of vita-

min B. "Although pyloric obstruction has been known for 150 years no one has presented a cause for it, nor have attempts to produce it experimentally heretofore proven successful. Our research work at the University of Oregon Medical School is concerned primarily with the cause of prenatal and neonatal deaths. While studying the various effects of a lack of the vitamin B complex on albino rats, we were surprised to find, especially on the young of the second generation, a clinical picture characterized by an enlarged and very firm abdomen accompanied by extreme emaciation. At autopsy the stomach was found to be enlarged to several times its normal size and to be so packed with milk curd that on extrusion the curd made a perfect cast of the mucosa. As rodents cannot vomit, there had been repeated packing of each day's nursing into the distended stomach. An examination of the vagus nerves of these animals showed myelin degeneration, a finding typical of beriberi. In cases where the gastric distention was mild or was cured by atropin the animals later developed polyneuritis.

"Pyloric obstruction appears therefore to be one manifestation of a vitamin B deficiency with resulting myelinogeny, Pyloric obstruction was obtained in 1.2 per cent of the young of the first generation and in 22 per cent of the young of the second generation raised on this diet."

The above quoted authors believe by giving mothers an excess of vitamin B in the form of dessicated yeast we can get away from pyloric stenosis. This is their theory—not my own; it seems that it is something we may well think of. The symptoms we all know. Vomiting beginning in 2 to 5 weeks, becoming projectile in type; visible peristalsis, and occasionally reverse peristalsis. Constipation, the stool mostly blackish or brown and consisting mostly of mucus; loss of weight; dehydration; pyloric tumor; and sunken abdomen, except when stomach is much dilated, when you can see the entire stomach outline, through the thin abdominal muscle. These symptoms with the

*Read before the Harvey County and the Golden Belt Medical Societies July, 1931.

physical examination are all we need to make the diagnosis positive.

With the history of the case as outlined the one thing to be looked for on examination is the tumor itself. If the case is a true hypertrophic stenosis we believe a tumor can always be felt. The palpation must be gentle and the examiner patient, as it is not always easily located. It will be felt anywhere to the right of the midline, and feels like a small to medium sized olive both as to size and hardness. It was palpated in the three cases I have to speak of here and six which I saw in the Babies Hospital. A Kansas City pediatrician in speaking of this point says it may be true if we wait until the patient is moribund but we do not believe it necessary to wait that long.

PROGNOSIS

Too often when we hear pyloric obstruction spoken of the speaker really is talking of pyloric spasm—this makes for an entirely different prognosis and gives figures on a lot of cures which were not obstruction at all. Dunn of Harvard in speaking of the prognosis says: "In cases of hypertrophic stenosis of the pylorus with marked obstruction or complete occlusion the prognosis with medical treatment is hopeless." Death from starvation will occur in a few weeks. The medical treatment with only partial obstruction is also bad, the babies usually dying of an intercurrent affection. There are many cases on record having gotten well on medical treatment but Dunn doubts the diagnosis. He says there is no evidence that pyloric stenosis tends to diminish and that the prognosis with medical treatment is eventually bad. Holt in 1910 gave the result of operative treatment as a 75 per cent mortality. Straus in 100 cases using a modified Fredet Rammstedt has a mortality of only 4 per cent. In my three cases there were no deaths and I am hoping the next will not leave me with a 25 per cent mortality.

Case No. 1.—This infant was first seen June 10, 1928, with a history of vomiting. These vomiting attacks were first noticed when the child was four days old, and gradually becoming projectile in

type. The child might go for two feedings without vomiting and then apparently vomit all it had taken in the two feedings, and the vomit projected from one to three feet from the child.

This child was admitted to the hospital June 11, at which time he weighed six pounds, having lost one pound from his highest previous weight. The child was given normal salt solution under the skin and rectally, as he showed a great amount of dehydration. The physical examination was negative except that the child showed a distinct emaciation. The abdomen was large and the peristaltic wave could be seen plainly when the child took nourishment, going from left to right across the abdomen; just before the vomiting took place the waves could be seen to reverse themselves and this time going from right to left across the abdomen.

On palpation a distinct hard mass as large as a medium size olive could be felt in the right upper abdomen just below the liver. After using atropin and a fairly thick gruel for a week with no improvement, a modified Rammstedt operation was done on June 18.

At operation the stomach was enlarged and dilated so that it would contain five to six ounces of fluid. The pylorus was found high up in the upper right abdomen. It was approximately one inch long and one-half inch in diameter and was hard and fibrous. Upon cutting down through the pyloric muscle it was found to be hard, fibrous, looked like a white gristle and was at least one-fourth inch in thickness from the outer side down to the mucosa. At this time the baby weighed 5 pounds and 12 ounces; the following 11 days he gained 11 ounces and was discharged on July 7.

Nineteen days after the operation the baby weighed 7 pounds and 7 ounces, a gain of over 1 ounce daily. At one year he weighed 23 pounds.

Case No. 2.—First seen August 2, 1930, at eight weeks; weight six pounds and one ounce. At birth this child weighed seven pounds and eight ounces, was a cesarean baby and was never on the breast. The first projectile vomiting was

at three weeks but he did not begin losing weight until one month old. The vomiting continued to become worse and apparently he did not retain anything in his stomach and what bowel movements there were contained only a little dry mucus.

This child was kept in the hospital five days before operation. Atropin was not used. He showed marked dehydration and was running a temperature from 98 to 101.5. By forcing fluids his weight went from five pounds and 13 ounces on August 2 to six pounds and three ounces on August 8, the day of the operation. The examination of this infant was negative, except for the abdomen which showed the typical peristaltic waves and the hard olive-like mass which in this instance was far to the right up in under the liver in the region where you might expect to palpate the right kidney. This infant was watched very carefully so his temperature would not get below normal. Fluids were given two to three times daily, normal salt under the skin and rectally.

On the sixth hospital day he was operated on. The stomach was found tremendously large for an infant and would have contained more than a half pint of liquid. The pyloric orifice was found far to the right, where it had previously been palpated. The modified Rammstedt operation was done and immediately the gas in the stomach was seen to pass into the duodenum. This child was put upon lactic acid milk immediately following the operation. He was discharged August 23, 15 days after the operation, with a weight of seven pounds and 12 ounces; a gain of 25½ ounces in 15 postoperative days.

I saw this child again October 28, 1930, two months and 20 days following the operation, at which time he weighed 14 pounds and 12 ounces, a gain of eight pounds and nine ounces in approximately two and one-half months, and his general condition was perfect.

Case No. 3.—This infant first began vomiting the projectile type at about 18 days. Vomiting was only once or twice daily to begin with, rapidly becoming

worse so that when I saw him at one month he was vomiting everything taken into the stomach.

Examination disclosed an emaciated child, comparatively lifeless, that is he did not react to anything and was very hard to rouse. His color was very yellow, showing an extreme jaundice; peristaltic waves both normal and reverse were plainly seen. The hard olive-like pylorus was easily palpated and in a fairly normal position.

Temperature was normal or subnormal. Treatment before operation consisted of keeping the child's temperature up to normal. Normal salt solution both under the skin and rectally was given. The operation was done under local anesthesia on account of the extreme weakness of the infant, and a typical congenital pyloric stenosis was found. The stomach was not abnormally large, probably large enough to contain three to four ounces of fluid. A modified Rammstedt was done September 1. The day of the operation the infant weighed six pounds and five ounces. On discharging 12 days later he weighed seven pounds and 11 ounces, a gain of 22 ounces in 12 days.

This child was put on lactic acid formula immediately following the operation. I last saw this case on October 14, 1930, at which time he weighed nine pounds and 15 ounces, a gain of three pounds and 11 ounces in a month and a half. He was found to be in perfect condition.

SUMMARY

Omitting the question of etiology, this still being unsettled, it appears to me there are only four points to be especially emphasized.

First: The diagnosis is, of course, presumptive from the history and noting the outlines of the stomach and the peristaltic waves. In those cases under discussion the tumor could be plainly palpated if plenty of time were used for this palpation; the tumor being found most anywhere to the right of the midline, location depending largely upon the amount of dilatation of the stomach. I personally believe the tumor can be palpated in all operable cases, or rather all true cases of hypertrophic stenosis. We fail to see

where the *x*-ray is of any importance in making a correct diagnosis.

Second: The preoperative care. Here is a point which to me is next in importance to the diagnosis. These babies when seen have usually been vomiting practically all the liquid which has gone into the stomach. This is recognized instantly when the somewhat emaciated, wrinkled appearing child is seen. We know that fluid is urgently needed. To get fluid to the infant we have several routes, all of them to be used, if necessary; hypodermoclysis, into the peritoneal cavity, by rectum and intravenously. No attempt should be made to force fluid by mouth as the vomiting seems only to further weaken the infant. A pint of fluid daily by these routes can be given easily, and a great improvement is noted. From two to four days has seemed necessary for preoperative treatment.

Third: The operation, the simpler the better. The modified Rammstedt is simplicity itself and may be done either under local or general anesthesia. The time necessary to do this should be anywhere from 10 to 15 minutes. The intestines require practically no handling and postoperative shock should be very slight, if any. The operation is simply incising the tumor its full length at right angles to the run of the muscle or fibrous tissue, down to the mucosa of the stomach, and separating widely with a small pair of hemostats, permitting the mucosa to push up into the incision. There should be no bleeding to interfere, the few vessels here being plainly seen and easily avoided. No stitches are used to close the incision nor are any indicated. The stomach is dropped back in its usual position and the abdominal incision closed in the usual manner.

Fourth: After-care and feeding. Warmth and fluids are the things to be stressed following operation. Enough external heat should be supplied so the infant's temperature stays in the neighborhood of 99. Too little thought is given to the temperature of these and all other sub-normal infants.

Fluids are still needed as before opera-

tion. Most writers on this subject stress the use of mothers' milk, in fact much over emphasize its importance. Each of these cases started on a modified Marriot lactic acid formula within three hours after the operation. A little vomiting occurred for a day or two in one case, but not projectile in type. The gain in each case was far greater than that of the normal average infant on mother's milk who had undergone no operation of any kind. This I think gives us plenty of reason to feel that the importance of human milk in these cases is not so great as pictured. In fact I would prefer the formula, it can be changed as desired.

In conclusion I will say that to me these cases are primarily pediatric and the surgery incidental, although quite necessary. If the preparation is good, and plenty of fluids used to take care of the dehydration, they appear to do beautifully. Whether blood or normal salt is used is apparently not so important. In these cases blood was not used although in the Babies Hospital in New York transfusion is routine. The only possible question would be a reaction in these extremely weak infants and, also, I think a pint of saline much more beneficial than 80 cc. of blood, which is a good amount for an infant the weight of those given in this article.

—————R—————

The Mineralization and Vitaminization of Milk—The unique significance of milk in the American dietary offers the excuse—or perhaps one should say the reason—for attempting to improve it nutritionally as well as from a sanitary standpoint. Recent proposals include what have been called the "mineralization" and the "vitaminization" of milk. It may properly be asked whether the addition of inorganic compounds and vitamin products to market milk as it is ordinarily produced is justifiable. Most authorities will agree with Krauss of the Ohio Agricultural Experiment Station who points out that the haphazard addition of all sorts of vitamins and mineral elements to milk would jeopardize the unique and excellent position now enjoyed by this product in the eyes of the general public and the medical profession. In spite of the intriguing mystery and glamor that surround some of the newer discoveries in nutrition, the fact must not be lost sight of that plain, ordinary milk is the best single food available and is thus considered by all. However, the incidence of rickets is still greater than it need be. Whatever the explanation may be, the fact remains that the incidence of rickets is still too great and will continue to be until some cheap, generally available, agreeable source of vitamin D is provided. Vitamin D milk seems to offer promising possibilities of meeting these requirements. (Journ. A.M.A., November 25, 1933, p. 1728).

VINCENT'S INFECTION*

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Various names have been used for this disease but Vincent's infection is more descriptive and less misleading.

Vincent described the organisms at the Pasteur Institute in Paris, as what is now known as *Spirochete of Vincent* and *fusiform bacillus*. These organisms are found in the normal mouths and even in infant's mouths. They are absent in edentulous mouths but are often found in the crypts of tonsils.

When Vincent's infection develops, it is a case of saprophytic organisms becoming pathogenic. The disease was quite common among soldiers during the World War, due to the lack of food, water, and proper hygiene of the mouth.

Vincent's infection usually starts distal to the lower third molars. Sixty-five to seventy per cent of the cases are local diseases. Twenty-seven per cent of the cases are the first symptoms of a constitutional disease. The infection often starts in the tonsillar tissue. If it starts in the gingival tissue and spreads to the tonsil, the diagnosis is simple but if it starts in the tonsil it is difficult to diagnose.

The local symptoms of Vincent's infection are: Redness of gums, bleeding, swelling and tenderness of gums and a fetid breath. The microscope shows a very large number of *Spirochete of Vincent* and *fusiform bacilli*. The general symptoms: rise in temperature often accompanied by severe headache, general malaise and constipation.

There are many treatments for this disease and any treatment that repeatedly meets with success may be followed. A good office treatment is to use a 30 per cent bismuth tartrate solution around all the teeth and mouth. In conjunction with this the patient should use a home treatment. He should be given two prescriptions; one for a pint of 1-5000 bichloride of mercury solution and another for one pint of dioxogen. He should be instructed to pour one-eighth glass of bichloride of

mercury solution into one-eighth glass of dioxogen and mix the two solutions. This is to be used as a gargle and mouth wash; repeated four or five times a day and a fresh mixture made each time.

The patient should take a mild laxative. He should go on a light diet consisting mainly of liquids such as noodle-soup and cocoa. He should refrain from smoking and all alcoholic beverages. In real severe cases Sulph-arsphenamine, three-tenths gram may be used either intravenously or intramuscularly. This should be given every three days and not over three doses.

After the patient has recovered from the infection it is wise to warn him against recurrence of the disease. If he has diseased tonsils, remove them. Send him to a dentist for a thorough mouth check-up and prophylaxis. If any malposed teeth are found they should be straightened or removed. All third molars should be extracted. The patient should be taught the proper way to brush his teeth and thus prevent a recurrence of the disease.

—B—

Vannay—One of the latest stars in the firmament of obesity-cure quackery is a product called "Vannay." It is put on the market by Bio Medico, Inc., of New York City. Bio Medico is a subsidiary of McCoy's Laboratories, which puts out the so-called McCoy's Cod Liver Oil Tablets. In addition to Vannay, the obesity cure, Bio Medico, Inc., also puts out a laxative, "By-Kem." There seems to be a remarkable similarity between Vannay and By-Kem if one is to judge by the advertising material. The manufacturers state that the principal element in Vannay is taurolactic acid. They also speak ambiguously of sodium tauro-lactate, and while the advertising matter does not actually declare that sodium taurolactate is the essential ingredient in Vannay, a representative of the Vannay concern is reported to have stated that it is. According to the advertising circular, there is in addition, "an infinitesimal amount of copper," together with secretine and a "blood serum lipase." There is nothing in the alleged composition of this "patent medicine" to produce a reduction in weight except those elements that stimulate peristalsis. The introduction of secretine into the formula indicates that the "group of brilliant doctors of science and medicine" who are alleged to have developed Vannay are not sufficiently brilliant to have learned that secretine, when taken by mouth, has no activity. The facts of the matter are, whatever reduction in weight may follow the use of Vannay is due to one or both of two factors: First, the laxative action ("increase the dose until your bowels move twice a day with a clock-like regularity") and, second, the requirement that the victim, in taking it, should diet. It hardly seems to have been necessary to call upon "a group of brilliant doctors of science and medicine" to establish such an obvious truism. (Jour. A.M.A., November 18, 1933, p. 1658).

*Read before the Rush-Ness County Medical Society meeting at Ness City, December 12, 1933.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Coarctation and Dissecting Aneurysm of the Aorta With Report of a Case

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EUGENE SCHWARTZ, M.D.*

Coarctation of the aorta is characterized anatomically by a complete or nearly complete obstruction of the aorta just distal to the left subclavian artery. It is due to a congenital abnormality of the aorta in the region of the attachment of the ductus arteriosus.

There have been described two types, namely, infantile and adult. The infantile type consists of a diffuse narrowing of the aorta between the left subclavian artery and the ductus arteriosus. This may be regarded as a persistence of the anatomical relations that exist before birth. The adult type, which our case illustrates, has no counterpart in the infant. This type is characterized by a sharp constriction or obliteration of the lumen of the descending aorta immediately above or below the insertion of the ductus arteriosus. To further embarrass the circulation there may be a pseudo-diaphragm or a flap at the narrowed portion of the aorta.

There have been numerous theories advanced to explain this curious anomaly. No one theory can explain all of the cases. It appears certain that some of these defects are present at birth.

Coarctation of the aorta has been discussed extensively in the last few years as evidenced by the literature. However, proved cases are of sufficient rarity to warrant the report and discussion of this case.

CASE HISTORY

J. K., an apparently healthy 18-year-old white male was sent several blocks for an armful of kindling wood. After returning with the wood it was necessary to cut the wood in shorter lengths before it could be used. As he raised his ax a sharp pain struck him in the right lumbar region compelling him to discontinue his work. He returned to the house where his mother prepared to rub his back. How-

ever, before she was able to remove his shirt he became cyanotic, dyspneic and complained of a severe knife-like pain in his chest. He left the room to get more air and as soon as he reached the porch he dropped dead.

This boy was described as being robust, healthy and had always been able to carry on heavy manual labor. He had never been sick enough to require the services of a physician. His parents noted after severe exercise his face became very flushed but disappeared shortly after rest. Recently his mother noted his neck was getting larger and at the time of death he was wearing a number 16 collar. There had been no history of trauma or accident previous to the time of the patient's death.

AUTOPSY

The body is that of a white male 18 years of age, weighing approximately 190 pounds. He is six feet tall and well developed physically. He has all the findings of a strong, robust individual. The upper and lower extremities are normal in size and contour. The neck appears large and the vessels in the neck are prominent. The superficial vessels of the chest and scapular regions were not noted.

Exposure of the thoracic cavity reveals a pericardial sac bulging with blood and blood clots. Blood has also infiltrated lateralward into both lungs. Removal of the blood from the pericardial sac reveals a perforated dissecting aneurysm of the ascending arch of the aorta. The break in adventitia is just below the line of attachment of the parietal to the visceral pericardium. The heart hangs in its normal position and aorta arches to the left and a little posterior to the heart. The aorta is markedly constricted and drawn inward at its descending portion just below the insertion of the ductus arteriosus. The heart and aorta together weigh 570 grams. The heart is hypertrophied and measures $14 \times 10 \times 9$ cm. The wall of the left ventricle measures 2.2 cm. in thickness and the right ventricular wall measures .6 cm. The heart muscle appears to be quite firm in consistency. The valves present nothing unusual except the aortic valve which shows only two leaflets. There is, however, apparently a rudimentary commissure located midway between the

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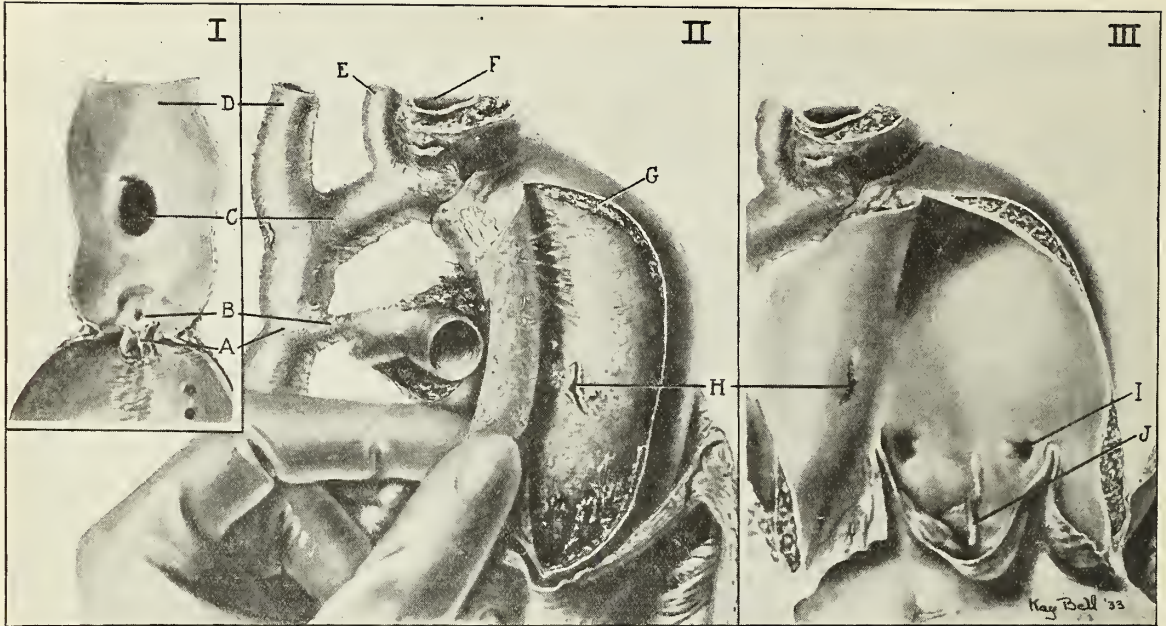


Illustration showing (I) interior view of coarctation, (II) Dissecting aneurysm of ascending arch with external view of rupture and media and (III) Internal view of ascending arch showing rupture and aortic valve with two cusps.

A. Coarctation of aorta showing a pseudo-diaphragm
 B. Ductus arteriosus
 C. Arch of aorta
 D. Left subclavian artery
 E. Left common carotid artery

F. Innominate artery
 G. Blood clot between adventitia and media of aorta
 H. Perforation of aorta
 I. Coronary orifices
 J. Undeveloped commissure of aortic valve

attachments of one leaflet. The valvular circumferences are: tricuspid, $9\frac{1}{2}$ cm., mitral, 7 cm., pulmonary, 5 cm., and aortic, $6\frac{1}{2}$ cm.

The ascending aorta is markedly enlarged as the adventitia has been dissected off of the media by a flattened diffuse blood clot. The undermining blood clot extends from the attachment of the aorta to and including the first part of the innominate artery. The adventitia of the lower end of the ascending aorta has been ruptured longitudinally and forms the source of the blood filling the pericardial sac. After retracting the adventitia there is a smaller slit-like perforation of the intima and media located 2 cm. above the aortic cusps. Around the rent in the aorta are a few early arteriosclerotic changes in the intima. The descending portion of the aorta is constricted just below the insertion of the ductus arteriosus and at this point there is also a fold of the intima resembling a diaphragm which causes almost a total occlusion of the aorta. The ductus arteriosus which is not patent

seems to have deformed the aorta by drawing it inward toward the heart. The circumference of the aorta just above the aortic cusps measures 4.5 cm., the arch 3 cm., and the abdominal aorta 3.2 cm.

The histological study of the heart muscle reveals considerable fragmentation and segmentation with some degenerative changes. Patches of fibrous tissue are occasionally seen. Sections through the aorta below the coarctation show nothing very abnormal; one section taken near the rent shows some diffuse infiltration with hemorrhage, blood clots and polynuclear leukocytes. Elastic tissue stains through the ascending portion of the aorta taken around the rent show marked destruction and breaking down of the elastic tissue fibers while sections taken below the point of coarctation show none of these changes.

The thymus is rather large and weighs 18 grams. On microscopic section there is found quite marked congestion and some infiltration of mononuclear leukocytes throughout the stroma.

The lymph nodes are hyperplastic and

microscopical section reveals some hyperplasia of the reticulo-endothelial cells.

Death is undoubtedly due to hemorrhage into the pericardial sac through a rupture of a dissecting aneurysm of the ascending aorta. This is associated with a stenosis of the descending portion of the aortic arch just below the insertion of the ductus arteriosus.

Increased pressure and degenerative changes of the aortic wall are probably associated factors in the perforation of the aorta.

COMMENT

The latency of symptoms is accounted for by the marked and extensive collateral circulation, the freedom from injuries to the myocardium, and the remarkable ability of the heart to compensate. The clinical signs of coarctation may be roughly grouped into three parts; cardiac, vascular and roentgenographic.

Abbott found cardiac hypertrophy and dilatation of the heart in 150 of her series of 200 cases. It is not an essential feature, however, since patients have lived to the age of 92 with almost complete atresia of the aorta but without hypertrophy and dilatation of the heart. The systolic murmur which is usually heard best along the left sternal border is probably valvular in origin. Some authors state that a systolic murmur may be produced in the dilated and tortuous collateral vessels in the region of the coarctation. If the murmur is produced at the site of the coarctation or in the collateral vessels it is not limited to any valvular area and tends to be higher pitched and more rasping than the systolic murmurs produced in the heart.

The vascular signs are distinctive. The high blood pressure in both upper extremities with, at the same time, a low blood pressure and low pulse pressure in the lower extremities is characteristic. Along with these changes in blood pressure is always seen evidence of marked collateral circulation over the back, epigastrium and the lower part of the thorax, together with the prominent subclavian and subscapular arteries. The collateral circulation is accomplished by the following routes: (1) The anastomoses between the superior intercostal artery of the subclavian and the first aortic intercostal that arises

from the aorta just below the site of the constriction; (2) by anastomoses between the aortic intercostals and the subscapular artery and its branches, particularly the circumflex scapulae and (3) by the internal mammary arteries and their anastomoses with the aortic intercostals.

The roentgenographic findings are merely graphic evidence of marked collateral circulation and show up as increased breadths and density of the basal shadows, inability to trace out the aortic arch particularly in the left oblique position and in some cases erosion of the ribs along the lower borders.

The infantile form of coarctation of the aorta is frequently associated with other conspicuous congenital anomalies such as patent ductus arteriosus and patent foramen ovale. The adult form is usually free from such gross abnormalities.

Coarctation of the aorta should not be confused with some disorder for which some therapeutic regime can be successfully used. Correct diagnosis would obviate useless treatment. Stenosis of the aorta is a rare disease but numerous people with it probably are being treated for hypertension and being put to unnecessary expense and worry. This condition should be suspected in patients particularly young or middle-aged men with hypertension or hypertension and aortic insufficiency who have marked carotid arterial pulses easily visible and rather slowly collapsing. Dilated collateral vessels under the skin of the chest and scapular regions, erosion of ribs and changes in the cardiac and aortic silhouette are interesting but less easily demonstrated. The difference in time and character of the pulse felt by the hand on the femoral artery from that felt with the other hand on the radial artery furnishes one of the most interesting of all physical signs and provides an easy and reliable diagnostic test for this condition.

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CASE REPORT

Alcaligenes (Brucella) Infection With Involvement of the Central Nervous System

ALFRED L. SEAL, M.D.
Lawrence, Kansas

In recent years *Brucella* infection has taken a place of major importance among the infectious diseases. The remarkable circumstance of a patient with this infection suddenly developing the picture of cerebral edema is of sufficient interest to merit its report in essential detail.

REPORT OF CASE

T. P., an Indian student, aged 19 years, with an uneventful past history was brought to the student hospital late in the evening of October 18, 1933, in a semi-comatose condition. A roommate stated he had complained of cramp-like pains and numbness in his left leg during the afternoon but had attended school as usual. Later at night he vomited, (projectile in description) became cyanotic, and had a severe convulsion, just prior to admission. There was no history of injury and he had not eaten anything unusual.

When I examined the patient, he was in a stuporous condition, and appeared very ill. The temperature was 98.5 degrees, pulse 80, respiration 16, and blood pressure 130/80. On examination the head and neck were essentially normal, as well as the chest, heart and lungs. The abdomen was flat and soft with no rigidity, and there were no glandular enlargements. The extremities and s i n were normal, the patellar reflexes were very hyperactive. The abdominal and cremasteric reflexes were absent. There was no evidence of Babinski's or Kernig's sign, and the neck was not rigid. The pupils were bilaterally contracted but reacted normally.

Laboratory examinations showed: Hemoglobin 80 per cent; red blood cells 3,200,000; white blood cells 7200; polymorphonuclears 74 per cent; small mononuclears 22 per cent; large mononuclears 6 per cent. There were no malaria plasmodia.

Analysis of the urine was negative. A routine blood Wassermann taken three

months previously was negative, and a more recent one was also negative.

During a few lucid intervals the patient complained of severe headache, but was unable to answer direct questions. An enema was administered and sodium bromide was given orally. This was vomited and chloral hydrate was injected rectally. Two hours later, the patient had another severe convulsion with generalized muscle twitchings, which was especially marked on the left side of the body and right facial area. He became cyanotic, respiration became difficult and more rapid and finally apnea occurred. A respiratory stimulant had to be administered. An hour later a similar convulsion occurred with vomiting, and more sedatives were administered. The mouth was held open and the tongue was not bitten during these seizures.

COURSE

The next morning the temperature was 101.5 degrees and pulse 90 per minute. The patient was still in a semi-comatose condition and the blood pressure was 132/80. About 10 a.m. two more convulsions, as described above, occurred in succession, unaffected by sedatives, and another respiratory stimulant was necessary. Sodium amyltal was not given to control the convulsions for fear of producing deeper coma and masking the symptoms, before a definite diagnosis could be established. Due to the recent encephalitis epidemic, a spinal puncture was performed which revealed clear fluid not under increased pressure with three lymphocytes and no abnormal sugar or globulin. Twenty cubic centimeters of 10 per cent magnesium sulphate was then given intravenously. Due to the fact that the urine had been scanty, 450 cubic centimeters of 20 per cent glucose solution was given by intravenous drip. The patient immediately became more rational, but still complained of headache.

The third day the temperature became normal with a pulse of 60 to 70 per minute and blood pressure 125/78. The patient complained of weakness and involuntary contractions of the leg muscles and feet. Two cubic centimeters of 50 per cent magnesium sulphate was given intramuscularly every 12 hours, and the patient rest-

ed comfortably without any further convulsions. The temperature continued normal for six days with a pulse of 60 to 70 per minute. On the seventh day after admission, the patient had a severe chill followed by temperature of 100 degrees which subsided in 12 hours. The white blood count showed a slight increase to 8,000 with 82 per cent polymorphonuclears and no malaria plasmodia. Weakness was marked and drenching perspiration required a change of bed linen every four hours. A specimen of blood was sent to the state laboratory for Brucella agglutination and was positive in a dilution of 1:80. A blood culture taken at this time was negative.

COMMENT

Interesting features of this case were the absence of fever, except for a short period following the convulsions and chill, and the relief of cerebral symptoms with dehydrating agents indicating that there was increased tension or edema. The blood culture was negative, possibly due to the fact that it was taken late in the course of the disease. This patient subsequently improved rapidly upon receiving injections of undulant bacterial vaccine, which produced reactions with pyrexia.

R

Lash-Lure—There have been sixteen cases of severe untoward effects reported following the use of a single product called "Lash-Lure." This preparation is an aniline dye having for its base probably either paraphenylenediamine or paratoluylenediamine or some closely related substance. Every physician, and practically every responsible beauty parlor, knows the risk that is run in the application of dyes of the aniline type to the hair of the scalp. It has long been good beauty parlor practice to insist that persons who are to be subjected to an aniline hair dye should be tested for sensitivity to that product. Because of the irritating effects of such dyes, there is no justification for the use of so dangerous a substance around the delicate tissues of the eye. Cosmetics are under no national control. The Lash-Lure tragedies emphasize the need of some sort of national control over the sale of cosmetics. (Jour. A.M.A., November 11, 1933, p. 1566).

Vitamin C Therapy—In the majority of cases, guinea-pigs maintained on a diet deficient in vitamin C will develop ulcerative lesions of the intestine, if fed daily doses of tuberculous sputum. If this deficiency diet is supplemented by an adequate amount of tomato juice (vitamin C), however, the animals almost invariably remain free from intestinal tuberculosis. Since the guinea-pig and man are apparently identical in their vitamin C requirements, McConkey and Smith of the New York State Hospital for Incipient Pulmonary Tuberculosis conclude that tomato juice therapy has a verifiable rationale in certain forms of clinical tuberculosis. (Jour. A.M.A., November 25, 1933, p. 1731).

REPORT OF COMMITTEE ON PROPOSED FULL-TIME EXECUTIVE SECRETARY

FOREWORD

At our last annual state meeting at Lawrence the president was instructed by the House of Delegates to appoint a committee of two to acquire as much information as possible about the question of a full-time Executive-Secretary for our state medical society, this committee to submit this information to each member of the state society and to prepare a statement of both sides of this question. Following this it was the request of the House of Delegates that each county society discuss this matter thoroughly this coming year so that they may be well informed upon this question and be ready to express their opinion by vote in the House of Delegates at the next annual meeting in Wichita. The undersigned committee was appointed and herewith submits in this number of the Journal the information it has obtained. In the next number of the Journal, the committee will submit separate statements attempting to present all sides of the question concerning a full time Executive-Secretary. It is the hope of the committee that all members of the state society will study the information presented in this number and the statements that follow in the next number of the Journal. Following this, in accordance with the action of the House of Delegates at our last annual meeting, each county society should discuss this matter in one or more meetings, so that they may be well informed upon this question and be ready to express their opinion by vote in the House of Delegates at the next annual meeting.

Signed,

HENRY N. TIHEN, M.D.
C. C. NESSELRODE, M.D.

The following is a summary of the replies obtained from questionnaires sent to the officers of the thirteen state societies which already employ a full-time executive-secretary:

1. *Number of members in the state society, the annual state dues, and the character of the full-time executive-secretary, whether physician or layman.*

State	Physician or Layman	No. of Members	State Dues
California.....	M.D.	4,500	\$10.00
Colorado.....	Layman ...	1,100	10.00
Maine.....	M.D.	700	8.00
Indiana.....	Layman ...	2,669	7.00
Massachusetts.....	M.D.	4,860	\$ 6.00- 10.00
Minnesota.....	M.D.	2,200	15.00
Ohio.....	Layman ...	5,000	\$ 5.00- 6.00
Texas.....	M.D.	3,300	8.00
Virginia.....	Layman ...	1,824	5.00
West Virginia.....	Layman ...	1,100	10.00
Wisconsin.....	Layman ...	2,200	\$15.00- 17.00
New Jersey.....	M.D.	3,000	13.00
Iowa.....	Layman ...	2,400	10.00

2. Which in your opinion, is most desirable for a State executive-secretary, a layman or a graduate physician?

Iowa: President—A layman.
Executive Secretary.

Wisconsin: President—Trained layman.
Executive Secretary.

Indiana: President—A layman. Our secretary is a layman, a former newspaper man, most competent, loved by all the members. He has done much in promoting the welfare of medicine in Indiana.

Executive Secretary—I don't believe that it makes any difference as long as the man has the proper qualities and as long as he is able to give full time to the work. I do not believe that the job can be done properly by a part-time man.

Minnesota: President—We have a physician and believe it is a great advantage as he knows the psychology of physicians better.

Executive Secretary—A medical man if he has had the proper lay training and experience. This is very difficult to obtain.

West Virginia: President—Layman.

Executive Secretary—First, a full time man. A trained lay executive would ordinarily be more desirable, although many physicians could handle the job quite well.

Colorado: President—Layman.

Executive Secretary—Being a Layman, perhaps I should not answer this, but the opinion of leaders of our society is that layman is preferred.

Ohio: President—Probably a layman.

Executive Secretary—This would probably depend on the qualifications, background, judgment and experience of the individual.

Virginia: President—For a number of years we have employed a lay secretary, who happens to be a woman. This plan I would say is very satisfactory for our society.

Executive Secretary—Naturally, I think a State Executive Secretary who is capable of giving all of his or her time to the work of the organization—a layman unless you can secure such graduate physician.

New Jersey: President—Physician. He has the medical outlook. Believe there are enough men within the profession possessing executive ability and other necessary qualifications to fill these jobs.

Executive Secretary.

Maine: President—A physician if he is capable of handling the Journal, editing and business manager both.

Executive Secretary.

California: President—The California Medical Association has always had a graduate physician who acted as a full-time executive secretary. We believe that a layman is not in a position to properly adjust nor solve such problems for the practicing physician that are not of sufficient importance to be submitted to the Council or its Executive Committee. A layman, no matter how well qualified he may be in clerical matters, can never see the viewpoint that physicians have in their problems.

Executive Secretary.

Massachusetts: President.

Executive Secretary—The following states have lay secretaries: Colorado, Indiana, Ohio, Virginia, West Virginia and Wisconsin. Suggest that you inquire of the officers of those state medical societies.

Texas: President—Physician.

Executive Secretary—If a suitable physician can be secured, it is by all means preferable to have him for executive secretary of a medical organization than a layman of equal or even superior ability. There are laymen who will make such good secretaries that the reverse is true. I am speaking in general terms.

3. What do you think about a lay secretary acting as managing editor of the state journal?

Iowa: President—We have considered it advisable to have a physician act as the editor of our State Journal. Our managing director acts as the business manager of the Journal—soliciting advertising, etc.

Executive Secretary.

Wisconsin: President—Has been very successful with us.

Executive Secretary.

Indiana: President—An excellent idea—at the present time this is not in vogue in our state but I predict our executive secretary who is a layman will be business manager of our State Journal within the next few months. He will not be Editor and should not be so. He will, however, care for all the business side lines of our Journal. No one medical man should have complete control of editorials but be supported by an editorial staff.

Executive Secretary—This seems to be very satisfactory in Ohio, Colorado, West Virginia, Wisconsin. I believe that in each of these states, however, a physician or an editorial board composed of physicians is in control and is responsible for the editing of all scientific material.

Minnesota: President—As managing editor I believe it works out well. What I mean is that a layman can look after the business end of the Journal very well.

Executive Secretary—Works out excellently in Wisconsin.

West Virginia: President—Okay as manager, not as editor. We have editors, but the secretary is the business manager.

Executive Secretary—A doctor should be managing editor of a state medical journal. The lay secretary should be business manager. He could direct publication, make-up, write general news, etc., and handle advertising and finance, but no layman should be shouldered with the responsibility for scientific essays.

Colorado: President—There are reasons for and against a lay secretary as managing editor, but all things considered, a lay secretary is better.

Executive Secretary—This is the plan used in Colorado. We believe it has proved successful. Suggest you consult our annual reports, published each year in the December issue of "Colorado Medicine."

Ohio: President—That appears to me to be the advisable thing.

Executive Secretary—This has worked out satisfactorily in this association. Of course, the Publication Committee directs the managing editor on policies and has entire supervision over scientific articles.

Virginia: President—The secretary of the Society acts as managing editor of the State Journal. The professional aspects are looked after by a committee appointed from the Society, of which one member is editor.

Executive Secretary—In our case, our lay executive secretary is business manager of our journal and has charge of journal work with exception of editorials. Our editor is chairman of the Publication Committee and we refer to him all matters of a medical or unusual character.

New Jersey: President—Do not favor the idea. Above reasons (See question No. 2) apply here. Positions of editor and executive secretary call for two distinct types of personalities, not usually found in one individual.

Executive Secretary.

Maine: President—Satisfactory.

Executive Secretary.

California: President—I am of the same opinion with reference to a lay executive secretary as managing editor of the State Journal.

Executive Secretary.

Massachusetts: President.

Executive Secretary—Someone with a medical background is essential in a discussion of medical problems. Knowledge of the art of writing, possessed by few medical men, is an essential requisite for an editor.

Texas: President.

Executive Secretary—If no better arrangements can be made, the suggestion is a feasible one. It is more feasible and desirable that the executive secretary be a physician and competent to edit medical papers and publish a medical journal. This plan works perfectly if a high-class man may be secured, as for instance, Mr. Loran of the Southern Medical Association, or the lay secretaries of some state associations we already have.

4. Have you had better luck in legislative matters under the full-time secretary plan?

Iowa: President—Yes, both in the preventing the passage of unfavorable legislation and in securing favorable legislation.

Executive Secretary.

Wisconsin: President—Very much better.

Executive Secretary.

Indiana: President—Most assuredly yes. Our full-time secretary being a former newspaper man is well informed as to the ins and outs of legislative problems. This year he is running on the Democratic ticket for State Representative. In fact, he was urged by the Executive Committee of our State Association to make the race and I predict his election. It will mean much for our Association.

Executive Secretary—Very much better. Indiana, we believe, is the only state in the Union in which during the last two sessions no cult bill has reached the floor of the General Assembly. This is due to what we believe to be a very satisfactory legislative organization throughout the state.

Minnesota: President—Since we have had a full-time

secretary our dues have been higher, and we have had more money to use and have had a very successful legislative program. In 1927 we passed the "Statute of Limitation." In 1929, "The Basic Science Law." In 1931, we repealed "The Massage Law."

Executive Secretary—Absolutely.

West Virginia: President—Yes, very much. Our present secretary is especially good diplomat.

Executive Secretary—Much better. Since West Virginia has had a lay secretary, not a single statute has ever been passed that has been opposed by the profession of this state. We have promoted and put through considerable desirable legislation, including tax exemption for hospitals at the last session in 1931.

Colorado: President—Yes.

Executive Secretary—We believe we have; suggest, however, that you get opinions of other as this, like Nos. 3 and 4, involves answering a question involving me personally.

Ohio: President—Yes.

Executive Secretary—Apparently the plan in Ohio has worked to the satisfaction of the members.

Virginia: President—Legislative matters are looked after by a legislative committee of the Society.

Executive Secretary—Our legislative committee looks after such matters with assistance from this office when requested.

New Jersey: President—No. This has been due to the fact that the editor has also been executive secretary. We are divorcing the positions October 1. Improved legislative technique and a competent secretary should result in improved handling of this work.

Executive Secretary.

Maine: President—Yes.

Executive Secretary.

California: President—Always having had a full-time secretary I am not in a position to answer this question, but our legislative matters are attended to by a committee on legislature, the chairman of which is a resident of our capital, and he in turn is assisted by an attorney, a lay assistant and a part-time secretary to do the stenographic work. With this combination we have been able to watch legislative matters carefully and have prevented many vicious bills and vicious amendments to bills being enacted.

Executive Secretary.

Massachusetts: President.

Executive Secretary—we have had no experience. We have an "Assistant to the President" who has been most efficient in handling legislative matters, in conjunction with the president and our standing Committee on State and National Legislation, of which the president is chairman.

Texas: President.

Executive Secretary—Yes, unquestionably so. We have gone still further than that and employed a whole-time layman who is well versed in legislative matters and looks after all such affairs for us.

Iowa: President—The Iowa State Medical Society has been committed to this plan since 1926 and since that time, with the exception of one year, 1927, have had a full-time secretary. Delegates from all sections of the state vote on the advisability of continuing the plan each year and year after year it has gone through without opposition, so evidently the various sections feels that the plan meets their needs.

Executive Secretary.

Wisconsin: President—In the State of Wisconsin for many years we were without a paid secretary. The dues at that time were only \$5.00 a year. The Society accomplished very little or nothing and really gave

less than \$5.00 of service to the membership. The dues were then raised to \$10.00 and on the basis of additional service, the Society gladly increased them to \$15.00. This was done on the basis of action in the various County Societies which supported the movement and sent instructed delegates to the House to vote for the \$15.00 dues. Before this advent, our State Journal was a losing proposition. Since he has assumed management, it has been a paying proposition. Our legislative program has been very much more successful since he has had charge of it. In Wisconsin we should be very loathe to dispense with an all-time paid secretary.

Executive Secretary.

Indiana: President—The Indiana State Medical Association with its full-time secretary, a layman, and its committees appointed by the president, together with each district represented by a councilor, has become in recent years a very smooth running organization. If the Kansas State Medical Association will adopt a somewhat similar plan of organization, I believe that all its members will be well satisfied. The plan as followed by the Indiana State Medical Association offers no advantages whatever to the city doctor over the physician from the small town and remote parts of the state.

Executive Secretary—As it would be almost impossible for us to cover the situation in the small space here, we are taking the liberty of making for you a special informal report of the work of the executive secretary of the Indiana State Medical Association. It is attached. The point never has been raised that the State Association helps the city doctor more than the small town physician. As a matter of fact, we feel at headquarters office that a strong organization is especially valuable to the physician doing small town or rural practice. Through the Journal, the headquarters office, and the various state committees, the man in the small town is able to keep in touch with the general progress of scientific medicine.

Minnesota: President—In my judgment a full-time secretary will create more life and get results over the state that we did not have before. We are looking after quacks and illegal practitioners over the state and our Association is in better spirits.

Executive Secretary—A recent survey of a state with a population of a little over two and a half millions showed from the state income tax returns that the income of the profession in that state was seventeen and a half million dollars. Members of the State Medical Association pay \$15.00 dues, or a total sum of approximately \$30,000.00. This is .0017 per cent that is paid to protect this enormous business. A study will show that there is probably no business, professional or employee group who pays so little to safeguard their interests.

West Virginia: President—Under our present management the Journal makes all its expenses and gives us considerable revenue besides.

Executive Secretary—In regard to question 2, it has always seemed to me that the chief function of an executive secretary was to serve as the contact, or go-between, for the profession and the lay public. As the contact is with the lay public, I feel that a layman is perhaps best suited for such an executive job. A physician is ordinarily bound too close to his profession to properly get the lay viewpoint.

If a layman is selected for such a position, I think he should be either a trained executive, or else a lawyer or newspaper man. Either of the latter two have a decided advantage over the ordinary layman. A lawyer is better equipped to look after the interests for which he works and is also better equipped to handle legislative matters. A newspaper man usually has a rather broad outlook and is admirably equipped

for any work that concerns publicity or putting out a state medical journal.

If Kansas should decide to employ a lay secretary, might I be allowed to suggest an applicant for the position? It is not myself, for I am very well satisfied here. I just happen to know of a young man who, I think, would make an excellent executive as he has done some work for us.

Colorado: President—In my opinion the value of an executive secretary depends practically entirely upon the man you employ. Our experience in Colorado has been a very happy one with a lay secretary, but it is because of the man himself who is energetic, active and having been a former newspaper man knows the "inside of legislative procedures." In conclusion I may say that it makes little difference as to whether the secretary is a lay one or a graduate physician, it will depend almost entirely upon the personality of the individual employed.

Executive Secretary—As above, suggest you consult the annual reports in December issues of Colorado Medicine for years from 1928 to date, in order to get unbiased opinion; and, as mentioned in accompanying letter, suggest you obtain opinions from other officers of our society.

Virginia: President—On the whole the plan seems to be a very good one and meets the needs of the profession in the State of Virginia.

Executive Secretary—I believe you will like the lay executive secretary plan.

New Jersey: President—In addition to the above a carefully selected legislative committee is necessary, with a chairman, as executive officer, who has a particular flair for this type of work.

Executive Secretary.

Maine: President—I think I am safe in saying that a full-time secretary of either type, physician or lay, has been much more satisfactory with us. Our physician Secretary met accidental death in April, since then we have a very capable young lady who is also business manager of the Journal. The present setup is working better than we anticipated.

As a result of fifteen years past in the Council and as a Delegate, two years as Chairman of the Council and a year as President-Elect, I have no hesitation in recommending that State Associations should have a full-time secretary. The component County Society are much more closely connected with the State organization by the frequent visits of the full time secretary. The secretary, by these visits, is able to find out who the active workers are in each county group. He can also get across to the county the aims of the council. With the information, on State Association matters, which the secretary takes to the respective counties, the delegates from those counties are coming to the state meetings better informed and with a clearer understanding of matters as they come up in the House of Delegates.

Executive Secretary.

California:—President.

Executive Secretary.

Massachusetts: President.

Executive Secretary—Our president has been in office two and a half months. The managing editor of the weekly "New England Journal of Medicine," a medical man and former president of the Massachusetts Medical Society, has held office since 1921.

Texas: President.

Executive Secretary—I do not view the lay secretary of a medical organization entirely with alarm, but I feel that it is impossible for even the exceptional layman to get the viewpoint of the doctor who has

served at the bedside, and that seems to be a qualification very desirable if not entirely necessary. As I say, there are frequent exceptions to this rule, within our own organization.

Ohio: The state headquarters is a service bureau. The myriad of details and voluminous correspondence which go through a central headquarter's office is amazing. Innumerable questions will be submitted by the members, involving statutory regulations, professional relations, health administration, hospital questions, workmen's compensation, etc. For this reason and many others, the Ohio State Medical Association has employed for a number of years an executive secretary who is a legally qualified attorney and a very able editor of the journal, and because of this it is my opinion that we have been able to do more effective work as a medical organization.

Executive Secretary—In the selection of a full-time executive secretary for a state medical association, whether physician or layman, the qualifications of the individual are of primary importance. I think it would be impossible to state that one plan is preferable to the other. It may be possible, however, that a layman of experience and judgment may understand the attitude of other lay groups, including legislative bodies, and it may be possible to create a better understanding between the medical profession, administrative governmental departments, and independent lay groups interested in public health questions.

—R—

LETTERS FROM A KANSAS DOCTOR TO HIS SON

JOHN A. DILLON, M.D.

Larned, Kansas

My dear Boy:

I am feeling in a very chastened mood this morning and I fear this letter will probably be a rather humble document. You naturally ask, how come? So I will unburden myself. As no doubt you are aware Contract bridge has spread its deadly tentacles about us out here as it has in all the towns and villages of the state. Eli Culbertson has taken the place of the family bible, "Good Housekeeping," and "Advice to Expectant Mothers." Lydia Pinkham's Vegetable Compound literature in all its intimate glory was never devoured as is the works of Eli today. Housewives who only got to the second year in high school and never could remember the capital of Washington, D.C., are taking Contract lessons Tuesdays and Fridays and attempting to memorize 380 pages of hints to bridge players. Dishes go unwashed and babies gurgle in uriniferous environment while mothers discuss bridge over the back fence. This has been almost exclusively a ladies' obsession but a few of my moron male friends are also taking

it seriously. That is they think they are until they run up against the ladies who have consecrated their lives to the calling. Then they fall flat.

Very few men are good cooks because they cannot see the necessity of accurately following word for word and measure for measure a recipe containing fifteen ingredients meant to ultimately become a cake or picalilli. But a woman can do this without an effort and incidentally, while doing this answer four telephone calls and make five of her own. By the same token she takes her bridge just as literally and just as seriously. Sooner would she cut off her right hand than open two spades with less than five and one-half honor tricks. A few months ago Eli was a bit more liberal and permitted this opening on four and one-half honors, but in his last regular monthly edition he probably was being scratched by his winter flannels and in a moment of irritation raised the requirements. But does the bridge fanatic mind this? Not on your life.

A woman may go to sleep Sunday night eminently satisfied with her Contract and wake up the next morning to find her bridge knowledge as obsolete as a bustle or a long tube nursing bottle. Eli justifies these changes of late by a sort of psychoanalysis philosophy. He says one should take into consideration the temperament, disposition and habits of the partner and modify the bidding accordingly. For instance if you are playing with a spinster not vulnerable from any angle and she crisply bids one heart after counting the honors on her fingers three different times one may safely assume the lady has two and one-half honor tricks at least. On the next round of bidding she will enumerate her playing tricks in the same manner so that every player knows she is bidding consistently. In playing with this type of individual and assisting her bid to game I usually feel like laying my dummy hand down and silently slipping under the table until the first shock is over. Again Eli says if you have as a partner a moon-faced loud laughing restaurant man who opens the bidding with the jack and five small clubs do not get excited even if you have

three honors in your hand. In other words this eminent authority urges that the bridge player who seeks to become adept at the game should learn besides the 380 pages of instruction the habits, family history, and complexes of the players with whom he consorts. No man who has a business to look after and an overdraft at the bank can hope to do this.

All this has been written you leading up to the explanation of the chastened condition in which I find myself. I went with your mother to a bridge party last night with good will toward all men. I shook hands with the hostess and beamed right and left on entering the room. I even cracked a joke and laughed appreciatively when no one else was inclined to do so. There seemed to be something strained in the atmosphere which I could not understand until the duplicate bridge boards were produced. Then I realized the ladies were bent on showing up the novices in the past time. As you probably know in duplicate a board is played at one table and the same board passed to the next table. As the evening wore on I was astonished and chagrined to note the comparative score I was making. After triumphantly negotiating a bid of two diamonds I would discover the previous players of the same hand had made a small slam in spades. In the estimation of my opponents I sank lower and lower in the scale of intellectuality and partners drew to one side after each game and talked in low tones while looking sidewise at me. In desperation I feebly attempted another funny story which also failed to register. While nervously reaching across the table for a cream pitcher I upset my coffee in a woman's lap. It was hot coffee and naturally it annoyed her. Your mother, good soul, attempted to defend me as usual by telling of the attack of Flu I had last spring which some thought was brain fever. The hollow cough I gave now and then substantiated the fact there was also a physical reason for my poor showing. My spirit was broken and I wended my way home wondering when the authorities would find out the horrible mental deterioration that had taken place and insist on doing something about it. I hadn't the

nerve to put the cat out as has been my custom at night but quietly slipped into bed. My sleep was fitful and disturbed. I dreamed that I was a grand slam in wild pursuit of a bridge amazon who fled desperately as I tried to murder her with eight honors which I brandished over her head. I awakened in a cold sweat, took some calomel tablets and went back to sleep. As I said before this is the day after and I must confess to a pronounced hangover.

There was a time when friends met together in homely fashion, played cards, chatted about the baby's tooth or the reason for the poor results in the last batch of home brew. All this has changed. There are still the purring amenities when guests arrive and voluble protestations of an enjoyable evening when they depart. But in the *interim* while the battle rages the cold blooded intensity is a thing to marvel at. It is no place for fiancées, and husbands and wives are very apt to drift further apart. Depression may come and go but no dyed in the wool contract player will give it a passing thought when a glance at his thirteen cards shows three aces and a couple kings. Maybe more people should play the game. Maybe I am morbid and not fit to judge its merits. Be that as it may, sometime I hope to meet this man Culbertson face to face. When I do my present plan is to snarlingly throw myself at him and bite a chunk out of the calf of his leg. On second thought I can see that this would do no good. Possibly I had better admit a fact that few men care to admit and that is the women are just too darn smart for us.

Love,

DAD.

P. S. This last sentence will please your mother who by the way is a keen student of the game.

—————R—————

Bugs to Burn

"You see that old boy over there? He thinks in terms of millions."

"He doesn't look to me like a financier."

"He isn't. He's a bacteriologist."—Karikaturen.

No Secrets From Him

"Did you hear Erica is marrying her x-ray specialist?"

"Well, she's lucky. Nobody else could ever see anything in her."—Washington Labor.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

The numerous articles on collapse surgery of the lung in current medical journals reflect a widespread interest in this subject. Pneumothorax, phrenicotomy, thoracoplasty and other means of collapsing the lung are being employed in an increasing proportion of cases. Improvement in technique is progressing steadily. In the October, 1933 American Review of Tuberculosis, forty articles on thoracic surgery, derived from medical journals of six countries, are reviewed. From this collection a few are here presented.

Progress in Collapse Surgery

ARTIFICIAL-PNEUMOTHORAX STATISTICS

Artificial pneumothorax is one of the most hopeful and beneficial methods used in the treatment of pulmonary tuberculosis. A survey has been made of a series of cases treated by artificial pneumothorax from 1922 to 1928.

All patients had tubercle bacilli in the sputum before treatment and very few were early cases. Pneumothorax was attempted in 149 cases, out of which 102 were successful. Seventy-five per cent of the patients were between the ages of fifteen and twenty years. Of the successful pneumothorax patients, 29.4 per cent are still alive, while only 1.06 per cent of the unsuccessful ones are alive.

It is impossible to compare accurately these cases with ordinary sputum-positive patients, but there is no doubt that this therapy produces almost immediate benefit.

A Review of Artificial Pneumothorax Cases, G. Hurrell, Tubercle, Sept., 1932, xiii, 542.

TERMINATION OF ARTIFICIAL PNEUMOTHORAX

Whereas the indications are well recognized for the induction of pneumothorax in patients with pulmonary tuberculosis, the criteria for its release are less clearly defined.

Seven factors are involved in the decision that the optimum time has been

reached for reexpansion of the collapsed lung: (1) the type of onset of the tuberculous disease, and its course prior to the giving of pneumothorax; (2) the period of time which has elapsed between attempting the pneumothorax, and producing a satisfactory collapse of the affected lung; (3) the rate of disappearance of tubercle bacilli from the sputum; (4) the existing constitutional symptomatology of the patient as compared with that before pneumothorax; (5) the type of refills; (6) the condition of the contralateral side; and (7) the economic status of the patient.

Physical signs by themselves are relatively unimportant, because even a thin film of air may mask or distort marked pathological lesions in the underlying lung. On the other hand serial x-ray plates, especially those taken just prior to the induction of the pneumothorax, and for two weeks thereafter, are particularly helpful in that they show the degree of parenchymal involvement before collapse therapy. Later x-ray plates may be misleading, as mediastinal structures may overshadow changes in the parenchyma of the lung.

Of the seven factors listed, the time necessary for the disappearance of tubercle bacilli from the sputum constitutes the most important criterion as to the effectiveness of the pneumothorax. At the time of induction it is futile to estimate the necessary duration of the pneumothorax. Satisfactory pneumothorax for one year to one and a half years should be sought for. Occasionally shorter periods suffice, but far more often the clinical course necessitates a longer space of time.

When release of the collapsed lung has been determined upon, the affected lung should be allowed to expand slowly and under careful observation. An average-sized pneumothorax should require two and a half to three months for complete reexpansion of the collapsed lung. In instances in which air-absorption occurs too rapidly, the rate of expansion may be slowed by small refills; in reverse cases, the rate may be accelerated by putting the patient on graduated exercise.

The reappearance of tubercle bacilli in the sputum, or the development of unde-

sirable constitutional symptoms during the release of collapse therapy, are indications that pneumothorax should be maintained. In cases of large cavitation antedating the pneumothorax, a phrenico-exaeresis is advised at the end of the period of pneumothorax before attempting a release of the collapsed lung. This measure is also advocated during release of the pneumothorax if untoward symptoms develop as a result of a shifting of the mediastinum.

Ueber den Abschluss der Pneumothorax-behandlung, M. Gross, Munchen. med. Wchnschr., July 8, 1932, lxxix, 1122.

EXPANSION OF LUNG AFTER ARTIFICIAL PNEUMOTHORAX

There have been very few reports on the status of patients in whom artificial pneumothorax has been stopped. In a series of 105 former pneumothorax cases, in which the lung had been reexpanded from one to eighteen years, 81 patients were alive and of these 62 were leading normal lives. Twenty-four patients were dead, and 19 of those living were still "curing."

Most of the cases in this study were in the far-advanced group, and all but 25 had lesions in the other lung. A positive sputum was present in 98 cases, and 75 of these became negative after pneumothorax treatment.

In the patients who are living and well, pneumothorax treatment had closed the cavities and rendered the sputum negative; of those still curing the cavities had not been closed, or extension had occurred to the other lung, or the patients were still recovering from other surgical procedures.

In a group of 38 patients, who had returned to work after reexpansion of the lung, only 3 had relapses in that lung. The former cavity reappeared 3 years after treatment had been stopped in one case; in another case an acute tuberculous process developed in the other lung followed by cavity-development in the lung which had been originally collapsed, although this new cavity did not appear at the site of the old lesion; in the third case, the cavity reappeared seven years after cessation of pneumothorax.

In another group of 34 patients who returned to work, there were five who relapsed, but the details of the relapses were not known. The total number of relapses in 72 patients who had returned to work was ten, and all of these occurred from 3 to 11 years after pneumothorax was stopped. The average time that pneumothorax was maintained in the 105 cases was 2.6 years.

It is concluded that reactivation following satisfactory collapse is the exception rather than the rule, and that an effective pneumothorax of two year's duration, with a negative sputum for at least one year, gives reasonable assurance that the lung may be expanded with safety. Even in those cases in which the pneumothorax is unintentionally lost at the end of 2 years there is no more danger of reactivation, if the cavity has been closed and the sputum rendered negative, than if the collapse were maintained for longer periods.

The Present Status of One Hundred Pneumothorax Patients after from One to Eighteen Years' Expansion of the Lung, E. N. Packard, J. Thorac. Surg., August, 1932, i, 581.

BILATERAL ARTIFICIAL PNEUMOTHORAX

The application of bilateral artificial pneumothorax on a wider scale is advocated. Selective collapse of the diseased areas of the lung, while permitting function of the healthier portions, is the procedure of choice. Adhesions mitigate against this procedure more than any other factor, and cauterization of adhesions is indicated when possible. When it is probable that a cauterization will enable the healthier parts of the lung to attain a better function and will secure more ideal conditions for a gradual reexpansion of the affected parts, cauterization is indicated, even if the artificial pneumothorax has been clinically successful.

In limited disease the complete thoracoplasty now in vogue should give way to partial thoracoplasty or apicolysis. In bilateral artificial pneumothorax needles with side openings should not be used, as they are more apt to perforate the lung than the ordinary needles. Combinations of methods may be desirable, such as

phrenicectomy or plombage or partial thoracoplasty on one side and pneumothorax on the other. A bilateral phrenicectomy has been carried out with relatively good result and without any serious disturbance of function.

A case of bilateral thoracoplasty is reported. The patient, a young girl, was febrile for 18 months prior to the operation, but has remained afebrile ever since. The expectoration, which was rather copious in amount, decreased to about 10 cc. in 24 hours but was still positive for tubercle bacilli.

Selective Lung Collapse in Bilateral Disease, J. Gravesen, Lancet, Feb. 18, 1933, cexxiv, 354.

THE PHYSICIAN'S LIBRARY

THE STORY OF CHILDBIRTH, by Dr. Palmer Findley, with many illustrations. Octavo, blue cloth, gold lettering, 376 pages, Doubleday, Doran and Co., Garden City, New York. Price \$3.00.

An internationally known obstetrician and gynecologist at last has the courage to write a book for the laity which only a famous obstetrician with an unquestionable reputation could write unchallenged. This book is of extreme interest to the medical profession, not only because it deals extensively with the history of obstetrics from pre-historic times, but because it outlines very graphically a resume of obstetrical care that every doctor would do well to read. It is amazingly fascinating to all who are interested in sociology, anthropology and the influence of ancient superstitions which still cling to intelligent minds in the process of child-bearing.

This is a book which would be of inestimable value to obstetrics if it could be generally read by the laity because it sets forth so simply and graphically the aims and teachings of modern obstetrics in the fight to lower maternal and fetal mortality rates in the United States and at the same time shows rather decidedly where the blame should be placed for our poor showing in obstetrics.

The author was rather severely criticized in the review of the *Jr. A.M.A.* for the statement that "In none other of our specialties would results such as ours be

tolerated. Statistics are notoriously unreliable but some facts must be admitted; that in no other country of the civilized world is it quite so unsafe to bear children as in the United States; that the casualties of motherhood for the same period were relatively greater than our casualties in the world war." The above quotation, which was erroneously given as a statement of the author, was taken from an article by Dr. Jeff Miller of New Orleans. True, a breath taking statement, but a fact nevertheless which the medical profession must face.

"The Story of Childbirth" is a book which should be in every doctor's library as well as in his reception room.—R.A.W.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 13, No. 5. (Chicago number, October, 1933.) Octavo of 254 pages with 93 illustrations. Per clinic year, February 1933 to December 1933. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

In this Chicago number there are twenty contributors presenting a series of most interesting surgical cases.

The clinical material is exceptionally well presented and the variety affords sufficient interest to make this volume worth while to the specialist as well as all surgeons.—M.B.M.

MEDICAL SECRETARY, THE, by Minnie Genevieve Morse, Member, Board of Registration, Association of Record Librarians of North America. Pp. 171. The MacMillan Company, New York. Cloth, price \$1.50.

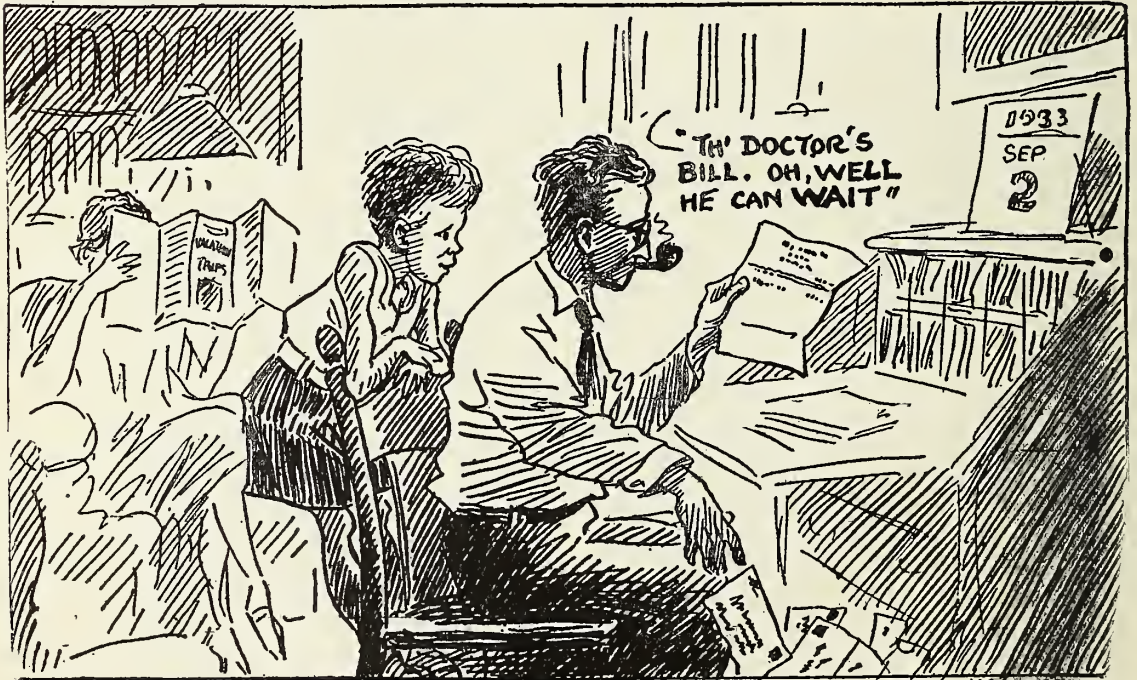
This book deals with the principal problems confronting the secretary without medical training, who takes up the duties of office assistant to a physician. On the other hand, nurses without previous secretarial training often assume such duties; for them, the book is likewise invaluable. Its chapters cover qualifications for medical secretarial work; medical terminology; medical correspondence, bills and reports; case records; medical indexing and filing; medical research; the preparation of medical manuscripts; office and patient, and the personality of the medical secretary. Of especial value to the secretary without medical training will be the several pages of frequently used medical terms which are interpreted in the language of the layman.

(Continued on Page 33)

WAITING FOR THE DOCTOR AND MAKING THE DOCTOR WAIT



When it's important that the baby lives.



When it's unimportant whether the doctor lives.

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

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EDITORIAL

FEDERAL MEDICAL RELIEF AND EMPLOYEES' COMPENSATION

Attention has been called to a new phase of governmental entrance into the practice of medicine, through the placing of approximately four million persons, in the last few weeks under coverage of the Federal Employees' Compensation Act. The mechanism is thoroughly discussed in the *Journal of the American Medical Association*.*

Originally provision was made for payment for medical services for indigent unemployed persons, by the government through state relief administrations. Next, such unemployed persons were put to work on state payrolls, through grants of

money from the federal government and "at wages assumed to be sufficient to enable them to provide medical and hospital services for themselves and their dependents." The employed men and women now estimated at two million, are transferred to federal payrolls and it is estimated approximately two million more will be added. Employment is made possible through the recently created Civil Works Administration. Since these individuals are employed through federal agencies and paid through the same sources they are within the purview of the Federal Employees' Compensation Act, administered by the United States Employees' Compensation Commission; consequently, entitled to medical and hospital service at government expense if they are injured or develop some disease in the course of their employment.

It is stated that government regulations contemplate medical treatment at certain centers maintained by the federal government. It is also stated the United States Employees' Compensation Commission has designated approximately 4,000 physicians to render medical service where government establishments are not available. Where such services are not available the local Civil Works Administration may employ such physicians. Physicians who desire to have their names placed on the list of physicians authorized to treat such employees should make application to the Federal Employees' Relief Commission, Washington, D. C.

State Relief Administrator, John G. Stutz, in Bulletin CW 24, issued December 28, 1933, to County Civil Works Administrators called their attention to the provisions for medical care for CWA workers.

OUR MEDICAL DEFENSE SYSTEM

It is now nearly 23 years since our medical defense system was started. In May,

*December 23, 1933. pp. 2054, 2059-2060.

1911, after two or three years of agitation, for and against it, the plan was adopted and put into operation.

This important step was taken not so much from choice as from necessity. The profession for years had become increasingly the victims of the damage sharks and the snitch lawyers throughout the state. Upon the slightest pretext, or without any apparent basis whatever, physicians were brought into court to defend their reputations and their pocketbooks. Indemnity companies had become reluctant to take medical risks, and did so only at a high price. Physicians were getting desperate, and something had to be done, not only to protect the individual member but to inhibit the alarming epidemic of malpractice suits.

So, not without misgivings, and in the face of considerable opposition, the system was adopted. There were many who opposed it because there was no provision made for adverse judgments. It was argued that for this reason the members would have to carry commercial insurance to protect their property, and that, therefore, there was no need for this new venture. On the other hand, it was contended that a vigorous and uncompromising defense was, with very few exceptions, all that would be needed, and that by making such defense universally available the vicious habit of suing doctors would be greatly checked; that lawyers and patients, when they found that they had to face a long and costly battle, would hesitate to enlist in such action; further, that doctors, when they found themselves comrades in a campaign of mutual defense, would be less prone to take the witness stand against one another. The proponents of the movement finally prevailed, and their contentions have been justified by events.

At first the number of cases did not markedly diminish, but most of them were

based on such flimsy grounds that they were readily demurred out of court. The late Edwin D. McKeever was the first attorney for the Defense Board, and he took great pride in the facility with which he could beat these suits before they barely got started. Before long the number of cases, year by year, began to fall off. Only hand-picked cases—cases with some apparent real grounds for action—survived, and these were so vigorously and persistently fought, and with such almost uniform success, that the malpractice industry soon became quite unprofitable and unattractive. It has continued to be so, comparatively speaking, although we still have a few new cases every year. But we are seldom beaten, and then only when the court of last resort decides against us. We never consent to compromise, but make the plaintiff fight to the last ditch for all that he may hope to get.

There used to be a good deal heard at every meeting of the society against the defense system. It was scorned and ridiculed, especially by the bigwigs and poohbahs who have money to spare for high-priced policies. This attitude still may be held by some, but they say little. It is a notable fact that when they are sued the big fellow as well as the little fellow almost invariably invoke our assistance, which is willingly rendered. The best of cooperation is maintained with the insurance companies wherever their interests and ours coincide. These companies appreciate the work we are doing. They know as well as we that the morale of the medical profession has been greatly strengthened by our own self defense. On this account their rates have not been raised in Kansas as they have been in many other states where society defense is not provided.

The cost of our defense is small. For many years an assessment of one dollar per capita constituted the defense fund, out of which all expenses had to be paid.

But this never left any margin for unusual and unexpected demands, and required close trimming to be able to carry on. Some years ago, when the state dues were raised to seven dollars, the defense fund was allotted an additional dollar per capita. Since that time we have met all requirements and have accumulated a reserve of nearly twelve thousand dollars. This reserve would be considerably larger if the treasurer had allowed it to compound itself by adding the interest yearly to the fund.

For twelve years the chairman of the Defense Board, who is its executive officer, did his work without compensation. At the Wichita meeting, in 1924, the House of Delegates, without his solicitation, put him on a salary of twenty-five dollars per month, which he still receives. The attorney receives a salary of seventy-five dollars per month and a per diem of twenty dollars and expenses when actually engaged in the trial or investigation of cases.

At the suggestion of the Editor, this little narrative of the development and scope of our defense activities is submitted to the membership for their consideration. We are proud of the fact that those who were formerly in opposition are now, for the most part, won over, and that we now present a united front against what was once a most formidable and insidious enemy. We have battled in every part of the state, and stand ready and prepared for every further call.—O.P.D.

EDITORIAL COMMENT

The National Drug Company has opened a branch office in St. Louis, at 3548 Washington Avenue.

Iowa psychologists find that little children are most afraid of dogs, doctors, storms, deep water and darkness, in the order named. (*The Diplomat*, November, 1933).

The *Nebraska State Medical Journal* has observed that few, if any, persons in hospitals for the insane succumb to cancer, but no explanation for the reason has as yet been forthcoming.

The Lincoln (Nebraska) General Hospital has announced the installation of new x-ray equipment with a constant potential of 700,000 volts. A new building was constructed to house the equipment.

Physicians should bear in mind the possibility of amebic dysentery in patients having an acute diarrhea with blood and mucus. Possibly some cases of "intestinal flu" on proper stool examination may be amebic dysentery.

It is reported 38 laboratories in this country are licensed by the Public Health Service for the production of diphtheria antitoxin and other biological products, in addition to 10 foreign laboratories which also hold licenses.

It is reported that the University of Wisconsin, to stimulate scientific research proposes to relieve 36 full-ranking professors of teaching duties for all or part of the year, permitting them to devote full time to research.

On page 24 of this Journal will be found a reproduction of McCutcheon's famous cartoon entitled, "Waiting for the Doctor," which appeared in a recent issue of the *Chicago Tribune*. Copies of the cartoon suitable for framing may be had by addressing a request to the Business Manager of the newspaper and enclosing six cents in stamps to cover the cost of printing and mailing.

According to a recent study by the Metropolitan Life Insurance Company, the Canadian lives longer, on the average, than the white resident of the United States, if the Province of Quebec is omitted from the reckoning. His expectation of life at birth is 60.74 years, as compared with 59.31 for the white male in the United States. For females the figures are 63.23 and 62.83, respectively.

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

Greetings!

Another year has passed with its problems for professional and layman alike. How well each has solved his portion remains to be seen.

In the year just beginning it is my hope with thorough cooperation within our organization much may be accomplished which will be of mutual interest and of much benefit to the communities in which we live.

With every good wish, I am

Yours fraternally,

A handwritten signature in cursive script, reading "W. F. Bowen." The signature is written in dark ink and is positioned above the printed name of the president.

President, Kansas Medical Society

Topeka, Kansas
January 1, 1934.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

Cancer

In the past few years we have experienced changing ideas in regard to the diagnosis and treatment of cancer. To date the ideal, a blood test for cancer, has not been satisfactorily developed. Probably, the Abderhalden test has received more study and consideration than any other test; however, it has now been discarded as it was found to be of little value. The biopsy, microscopic study of the sections still remains the dependable method of diagnosis.

Before the biopsy, there are many aids that may be employed to exclude a certain condition. The most important of these is one of the dependable tests for syphilis, either complement fixation or one of the flocculation tests. The blood count is often a great aid, especially in differentiating such conditions as leukemia; a decreased white count should warn the physician to proceed rather cautiously as the average cancer patient will show a mild leukocytosis. A study of the blood chemistry gives assistance in a certain number of cancer cases, both in the diagnosis and the method of treatment. Some work has been done to prove there is a lessened sugar tolerance in cancer and the less the tolerance, the more unfavorable the prognosis. A urea estimation, especially in urinary tract cancers will in many cases exclude surgical procedures. Acidosis and alkalosis also play a very important part in the selection of the type of treatment. Blood proteins are being studied at the present time and there may be much valuable information from this determination. A complete laboratory study of the patient will classify many as to the future treatment, provided a proven cancer is found. Sporadic studies have been made on this subject by various investigators; yet it remains for each surgeon or physician to establish his own criterion.

With the fairly common use of radium about 15 years ago, there was an undue rush to its use. It flourished for a few years and since then the pendulum appears to have swung too far the other way. There is a very definite place for the use of radium and *x*-ray in cancer. In many cases, the proper therapeutic procedure can be recommended from a study of the pathological specimen. This should include an exhaustive study of the microscopic section as well as a study of the clinical case. Factors that influence this opinion, aside from the microscopic study, are the laboratory findings, physical findings, age of patient, location of lesion, duration, complicating conditions and other circumstances.

This calls for close association between the pathologist and the surgeon. Strictly from the pathological study, the specimen should be removed from the peripheral portion as well as the base, if it be an ulcerated area. Removal of the tissue should never be made in a parallel plane but should be a wedge-shaped specimen which will include a portion of the deeper tissue. Sufficient amount of tissue should be removed to permit of numerous sections, to study many relations of the cells. In most instances, tissue removed with a trocar is unsatisfactory. By all means, the specimen must be placed in a suitable preservative at once; 10 per cent formaldehyde is best. Often, valuable tissues are rendered absolutely worthless through drying. Sufficient data should accompany the tissue giving the location, age, duration, description of gross specimen and the clinical diagnosis. This information is so often lacking and in some instances, delays the report until the pathologist can write to the attending physician to obtain such.

The morphological classification is based upon cellular relation, cellular comparison and cellular changes. These changes take into consideration the size, shape, location of the cell, and the nuclear and chemical changes. The degree of malignancy is determined by the individual cell changes and nuclear activity.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

STUDIES IN PATHOGENESIS

Discerning practitioners of the healing art have long intuitively grasped the fact that during an organic illness the patient is also psychically ill, and they have realized that recovery is promoted not only by drugs, or surgical drainage, or rest in bed but also by sympathetic understanding, by encouragement and even by tactfully administered reproach. It is not such a great leap from this attitude to the theme of this paper, the purpose of which is to stimulate further investigation into the interrelation of psychic and organic factors in disease.

Medicine made a long stride forward when it was able to recognize that purely psychic factors could produce apparently organic illness; but perhaps too great stress has been laid on the desirability of sharply dividing off neurotic or psychogenic illness from purely organic illness. We are no longer satisfied with setting up this demarcation, but must realize that every disease process has both organic and psychic determinants. The physician of the future must consider etiology, pathology and treatment in terms of the entire personality, body and mind.

Psychoanalysis has been making observations along this line no less than has medicine. There is a borderland between body and mind which belongs to both and must be illuminated from both standpoints. This borderland includes the phenomena of the vegetative nervous system, the endocrine system, hormones and physiological chemistry. Psychoanalytic research has thrown new light on certain forms of disease hitherto observed and treated from an organic standpoint only, e.g., hyperemesis gravidarum, endemic war-time amenorrhea, certain habitual forms of abortion, previously inexplicable disturbances of the urinary apparatus, the activities of the stomach, respiration, cutaneous secretions, etc., and of such reputedly specific forms of disease as bronchial

asthma, diabetes insipidus and others.

We know that in as supposedly purely psychic phenomenon as anxiety, the process which manifests itself as a nameless fear or dread corresponds in the organic realm chemically to an increase in blood calcium, and endocrinologically to a surcharging of the blood with adrenal or thyroid incretion; this leads to a stimulation of the sympathetic system, which is associated with excitatory states, and ultimately to motor tension and a desire to void the excreta—in short, to an urge towards the discharge of tension, which is felt above all in the motor mechanisms.

The writer begins by stating that nowadays hardly anyone would hesitate to regard as true: (1) that every organic malady is accompanied by a minor neurosis; (2) that the instinctual energies deriving from the unconscious form the basis for the particular course of an organic illness, and (3) that the mental processes which go on within, and modify the course of, an organic malady can be grasped and explained through psychoanalysis. He proceeds from this through theoretical discussion and various clinical examples to show that when these various intercalated links between somatic and psychic phenomena are understood, we will be able to have a stereoscopic picture of the patient from both standpoints, and our rational therapy can then be adapted to combat all the factors which contributed to the disease process.

Studies in Pathogenesis. Deutsch, Felix: *Psychoanalytic Quarterly*, Vol. 2, No. 2. April 1933. Pp. 225-243.

CHRONIC SUBDURAL HEMATOMA

The primary etiologic factor of chronic subdural hematoma is a trauma to the head, but the injury is often so mild as to escape even the notice of the patient especially since symptoms of compression of the brain do not appear for several weeks or months after the injury.

The author reports a case in which intermittent bleeding from a persisting opening in the superior longitudinal sinus was seen during an operation two and a half months after the primary injury to the head. Severe injury to the brain is liable to cause edema which would probably

cause a closure of torn vessels long enough to form a firm thrombosis; a mild injury, however, might not result in edema and therefore might permit subdural venous bleeding. Thus in conditions of cerebral atrophy, a mild blow on the head or straining with coughing and convulsion would favor the rupture of the venous suspensions from the superior longitudinal sinus and permit free subdural hemorrhage.

The treatment of chronic subdural bleeding has varied greatly depending on the operator and the condition of the patient. Thorough removal of the membrane has been recommended by many. However an increasing number of satisfactory recoveries have been reported after simple evacuation through a trephine opening when more radical procedure was not necessary. Subtemporal decompression is at times advisable.

A case is cited to show that anterior-posterior displacement of the brain is highly significant in the causation of chronic subdural hematoma. A jar could be responsible for this displacement and a blow on the head would not be necessary for the bleeding to occur. The author warns against the possibility of a mistaken diagnosis of cerebral vascular disease in aged patients. Bilateral hematomas are not uncommon and bilateral trephine exploration is often advisable. Hypertonic solutions for relief of pressure are often useful adjuncts to the treatment.

Chronic Subdural Hematoma. Keegan, J. Jay. *Archives of Surgery* 27: 629-644. October 1933.

FEVER THERAPY IN NEUROSYPHILIS

Malarial treatment for neurosyphilis began on a large scale in 1918. From two cc. to 10 cc. of whole blood are taken from a person suffering with tertian malaria and injected into the neurosyphilitic patient. No superinfection has been observed when the blood is taken from one with dementia paralytica and injected in those with tabes or cerebrospinal syphilis. These injections may be intravenous, intramuscular or subcutaneous, and the time required for incubation is from about one to 12 days, depending on which method is used. The results are about the same in all three methods. Some students advo-

cate quartan malaria because of the high fever and absence of severe symptoms. In England the malignant subtertian parasite is being used with patients who have not benefitted from one of the benign types. In London experiments utilizing mosquitoes to transmit the disease have shown some advantage, but there is some difficulty in cultivating them for this use.

The paroxysms of this artificially acquired malaria do not occur with the regularity of naturally acquired malaria, but the symptoms may become so severe as to indicate a prompt termination of the malaria infection. Increase in urea, low systolic blood pressure, severe icterus, low blood count, progressive anemia, with spontaneous cessation of chills, and profuse diarrhoea are indications of grave danger. The patient is allowed to have from eight to sixteen chills and then the fever is terminated with quinine. The artificial form of malaria succumbs easily to the drug.

About 30 per cent of the patients having dementia paralytica enjoy full remission after malaria treatment. About 20 per cent enjoy incomplete remissions. Often the cerebrospinal fluid improves, becoming negative despite the clinical condition. Reports on the treatment of other types of neurosyphilis show a high per cent of remissions.

Relapsing fever and rabbit fever have been found much less effective than malaria. Moreover, their transmission and control are more difficult. Typhoid-paratyphoid vaccine injections have been used for the production of therapeutic pyrexia in neurosyphilis. The results are not as good as with malaria, but the method is much safer and therefore better for the general practitioner to use.

Diathermy has proven a very effective method of treatment, but it requires some cooperation of the patient and the services of expert therapists besides an expensive machine. It is gradually replacing malaria in institutions.

Fever produced by the injection of a solution of sulphur in olive oil has also proven effective in the treatment of neurosyphilis. Considerable weight is lost by the patients during this treatment but they do not suffer many of the clinical

symptoms which accompany other forms of therapy. The effectiveness of sulphur is about that of typhoid-paratyphoid. It is advocated as the method of second choice for the general practitioner, when patients cannot be institutionalized.

A Brief Review of Fever Therapy in Neurosyphilis. Beckman. Harry. Archives of Dermatology and Syphilology, 28:309-319. September 1933.

MALIGNANT TUMORS OF THE MALE BREAST

The author states that malignant neoplasms of the male breast are more common than generally thought. He reports the study of 106,583 specimens submitted to the State Institute for the Study of Malignant Disease, Buffalo, between 1900 and 1931 and 10,433 specimens examined by the Department of Pathology at the University of Missouri between 1921 and 1931. Of these specimens 308 were from men's breasts and 8,941 were from women's breasts.

Of the 308 male breasts examined the types of affections were as follows:

1. Neoplasms165, or about 53%
 - a. Benign105, about 34%
 - b. Malignant .. 60
 1. Carcinoma 50, about 16%
 2. Sarcoma . 10, about 3%

Of the 308 lesions, 8 were carcinomas that began in the skin or outer ducts of the nipple, 42 arose from acinus or duct epithelium as duct cell carcinomas and 10 were sarcomas.

The incidence of carcinoma of the breast is far more common in women than men, the proportion being about 80 to 1. About 1.24 per cent of all the carcinomas of the breast occur in men. Carcinomas occurred only five times as often as sarcoma in the male breast, whereas in the female breast carcinoma was found 79 times more frequently than sarcoma.

The average age at which carcinoma was developed was 57.7 years in males; most writers agree that the average incidence is much earlier in women and it is shown to be 39.7 years; thus, age seems to play a significant role. Of all breast lesions 3.31 per cent occurred in men.

Malignant Tumors of the Male Breast. Neal, M. Pinson. Archives of Surgery, 27:427-465. September 1933.

PERSONALS—NEWS ITEMS

Caney: Mrs. May R. Coon, wife of Dr. W. F. Coon, died on December 26, following an attack of pneumonia.

Topeka: Dr. J. L. Lattimore with his family visited relatives in Texas from December 22 to January 2.

Topeka: Dr. J. Theron Hunter was elected president of the Junior Chamber of Commerce at the annual meeting held on December 6.

Dodge City: Dr. C. L. Hooper, member of the state board of health attended the second quarterly meeting held in Topeka, December 14.

Salina: R. B. Stafford, formerly full-time health officer in Brown County but more recently Commissioner of Health of the Virgin Islands, has located in Salina.

Hill City: Dr. I. B. Parker, Chairman of the Graham County Reemployment Committee, conferred with F. H. Marvin, State Superintendent of Relief, at Topeka, on December 4.

Topeka: Shawnee County Medical Society has placed *Hygeia* in all of the libraries of Junior and Senior High Schools, the Y.M.C.A., Y.W.C.A. and hospitals in Shawnee County.

Lawrence: Dr. A. L. Seal, resident physician at Haskell Institute, has received notice of his transfer to the Indian service hospital at the Cheyenne and Arapaho agency at Concho, Oklahoma.

Topeka: Dr. Arthur E. Hertzler will be the guest speaker at the meeting of the Shawnee County Medical Society, Hotel Jayhawk, on February 5. He will discuss "Present Trend of Goiter Treatment."

Kingman: Dr. H. E. Haskins was one of a committee from Kingman County which appeared before the State Forestry, Fish and Game Commission and the Highway Commission, on December 4, in regard to the proposed state lake in Kingman County.

Clay Center: Clay County physicians have been employed by the Board of County Commissioners to immunize against diphtheria all children between the ages of six months and ten years. One dollar will be paid for each complete immunization.

—————R—————

The Physician's Library

(Continued from Page 23)

METABOLIC DISEASES AND THEIR TREATMENT by Dr. Erich Grafe, Professor of Medicine and Director of the Clinic of Medicine and Neurology at the University of Wurzburg, Germany, translated by Margaret Galt Boise under the supervision of Eugene F. Du Boise, M.D., Medical Director, Russell Sage Institute of Pathology; Professor of Medicine, Cornell University Medical College, New York, and Henry B. Richardson, M.D., Associate Professor of Medicine, Cornell Medical College, New York. 540 pages, illustrated with 37 engravings. Lea & Febiger, Philadelphia. Price \$6.50.

This volume is characteristically German in its construction but is a readable translation. The presentations of the included subjects are shining examples of completion for the space allotted to them. The section on Diabetes Mellitus is a delightful review of an important subject and presents the material from a very modern European viewpoint.

The pathological physiology forms a greater part of the material and thus puts the subsequent discussion on a firm and rational basis; most logical is a treatise of Metabolic Diseases.

This is no book for one who wants simply a compendium which presents only "something practical." It is distinctly worthwhile and a substantial addition to a library.—A.J.B.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR, by E. B. Gleason, M.D., LL.D., Professor of Otology, Medico-Chirurgical College Graduate School of Medicine, University of Pennsylvania, Philadelphia. Seventh edition, revised and entirely reset. 651 pages with 261 illustrations. Philadelphia and London: W. B. Saunders Company, 1933. Cloth, \$4.50 net.

This book is written to supply students and general practitioners with essential facts of rhinology, laryngology, and otology in as concise a form as possible. It contains over 600 pages and 261 engravings. On closer examination one finds the book quite complete, even to operative procedure. The author's handling of sinusitis is conservative, reserving the radical procedures to save life. At the back of the

book is a formulary designed to represent more than a catalogue of prescriptions. A detailed description of the better methods of use of each of the more important drugs has been interpolated. Also a description of the method of preparation and compounding. All in all, it is more complete than one anticipated on first examination, and will make a good reference book for the practicing otolaryngologist.—H.L.K.

—————R—————

BIRTHS

Kansas City: Dr. and Mrs. Cecil Edwards Hassig; a son, Cecil Warren, on November 25.

Kansas City: Dr. and Mrs. William Joseph Feehan; a daughter, on November 5.

Kansas City: Dr. and Mrs. Ralph Minton Wyatt, of Hill City; a daughter, Agnes Anne, on November 4.

Lawrence: Dr. and Mrs. Louis Kurt Zimmer; a son, John Werner Harry Kurt von Waldershof, on November 22.

Parsons: Dr. and Mrs. Charles Henry Miller; a son, Charles Henry, Jr., on October 23.

—————R—————

DEATH NOTICES

ROBINSON, OLE E., Independence, aged 57, died November 13, 1933, of coronary thrombosis, diabetes. He graduated from Keokuk Medical College, College of Physicians and Surgeons in 1901. He was a member of the Society.

STOUGH, J. HOWENSTEIN, Kansas City, Missouri, aged 75, died November 20, 1933, of myocarditis, shock as a result of a fall. He graduated from College of Physicians and Surgeons, Kansas City, Kansas, in 1898. He formerly practiced at Edgerton and Overland Park, Kansas. He was not a member of the Society.

TINNEY, GRACE G., Norton, aged 56, died December 19, 1933, of cerebral hemorrhage. She graduated from Woman's Medical College, Kansas City, Missouri, in 1902. She was a former member of the Society.

COUNTY SOCIETY NEWS

ALLEN COUNTY MEDICAL SOCIETY

The regular meeting of the Allen County Medical Society was held in the offices of Dr. C. B. Stephens, in Iola on December 15. Dr. O. L. Cox, president, in the chair.

The following program was given: Dr. F. Lenski, "Liver Abscess," and Dr. J. T. Reid, "Ectopic Pregnancy."

Officers elected for the year 1934 include: R. R. Nevitt, Moran, president; J. T. Reid, vice president; C. B. Stephens, secretary; F. L. B. Leavell, treasurer, and F. Lenski, member Board of Censors. O. L. Cox was named as delegate to the state meeting in Wichita, May 8 to 11, and O. L. Garlinghouse, alternate.

C. B. STEPHENS, M.D., Secretary.

BROWN COUNTY MEDICAL SOCIETY

The members of the Richardson County (Nebraska) Medical Society were guests of the Brown County Medical Society at the Sabetha Country Club, October 27; members of the Auxiliaries were also present. The Sabetha ladies supervised the eats and the Hiawatha ladies the entertainment. This was to have been a Brown County affair, but the Sabetha doctors insisted on looking after the financial end of the party. A very delicious dinner was served at 7:30 p. m. after which the evening was turned into a Hallowe'en Frolic and everybody frolicked.

There were 45 persons in attendance including eight members of the Richardson County Society and their wives and three physicians from St. Joseph, Missouri.

President L. C. Edmonds appointed a committee consisting of Doctors Emery, Conrad and Nichols to study, prepare and present a fee schedule for the people receiving governmental aid.

The physicians of Hiawatha entertained the members of the Brown County Medical Society and Auxiliary at a seven o'clock dinner of turkey and trimmings at the Sam Keating Eat Shoppe, November 24.

After dinner, a business meeting was held in the office of Dr. Paul E. Conrad. Minutes of the previous meeting were approved.

Moved that a copy of the minutes of the October meeting be sent to the Editor of the Kansas Medical Journal—was strongly hinted the secretary should do this each month.

Dr. Emery's Committee on Fee Schedule reported and submitted a schedule which was read, discussed, modified and adopted as the minimum fee schedule for the Brown County Medical Society. It was ordered submitted to the FERA Commissioner with the statement the Brown County Society members would care for those employed by the FERA at 50 per cent of said schedule.

Officers elected for 1934 include: Paul E. Conrad, president; R. T. Nichols, secretary-treasurer, and Edw. K. Lawrence, member of the Board of Censors. Doctors L. C. Edmonds and Paul E. Conrad were elected as delegates to the state meeting in Wichita; said delegates to select their own alternates.

Doctors W. W. Nye, E. J. Leigh, H. J. Deaver and George C. McKnight were voted honorary membership in the Brown County Medical Society and the Kansas Medical Society due to their long years of active practice and membership in these societies. Forty years of active practice in medicine entitles a member of this society to honorary membership if the society so votes.

The secretary was authorized to purchase an A.M.A. Directory, to be kept in his office and at all times available to the members.

Doctors Conrad and Emery were appointed to draft resolutions of sympathy and condolence for Mrs. C. P. and Miss Fryer.

R. T. NICHOLS, M.D., Secretary.

DECATUR-NORTON COUNTIES MEDICAL SOCIETY

The Decatur-Norton Counties Medical Society held its meeting on November 7, 1933, at the State Sanatorium for Tuberculosis, Norton, Kansas.

The meeting was adjudged one of the most successful of the year. Dr. A. E.

Hertzler, Halstead, Kansas, was the principal speaker on the program and gave the society a talk on "General Principles in the Diagnosis of Diseases of the Breast." His talk was well given and a rising vote of thanks extended to him. The Decatur-Norton Counties Medical Society is very grateful to Dr. Hertzler, as this is the second time within two and one-half years he has offered to talk to the Society. Other papers were as follows: "Can Heredity Be Overcome," Dr. J. M. S. Chesshir, Almena; "Mechanical Obstruction of the Bowel," Dr. M. C. Eddy, Colby, and "An Epidemic of Acute Endocarditis," Dr. J. H. A. Peck, St. Francis.

Discussion was lively when the practice of osteopaths and chiropractors in attempting to utilize hospitals and the FERA was brought up. The society went on record that it is opposed to osteopaths and chiropractors utilizing hospitals.

Dr. J. D. Colt, Sr., president of the Kansas Medical Society, was present at the meeting and explained clearly and concisely the principles of the FERA. An advisory board consisting of three members, Doctors W. C. Lathrop, Norton; M. C. Eddy, Colby, and J. H. A. Peck, St. Francis, was appointed to recommend to the Society a schedule of fees in regard to the FERA.

The attendance at the meeting was unusually large, 40 doctors being present.

Following the meeting the society inspected the State Sanatorium. The new x-ray equipment was one of the chief features of the Sanatorium visit. The equipment is of the latest type and was praised as a valuable asset to the Sanatorium.

Dinner was served at the Kent Hotel to 20 guests.

PHILLIP COHN, M.D., Secretary.

FORD COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Ford County Medical Society was held December 13. The society was the guest of the management of the State Soldier's Home at Fort Dodge. A turkey dinner was served at 7 p.m. and approximately 40 members and visitors were present.

The guest speaker was Dr. E. S. Edgerton of Wichita, who gave a very fine paper on "Diseases of the Biliary Tract." He discussed the medical and surgical treatment and stressed the importance of careful clinical diagnosis before selecting the treatment. The paper was discussed by Doctors Dennis and Melencamp of Dodge City and Reed of Larned. Many questions were asked by others.

Doctors Atkins and Vermillion of Pratt discussed the present status of Federal Relief as it affects the medical profession. Plans are being worked out to conform with the plans as outlined by the State Medical Society and the State Federal Relief Committee.

The following officers were elected for 1934: N. E. Melencamp, Dodge City, president; F. M. Coffman, Ford, first vice president; C. E. Bandy, Bucklin, second vice president; C. L. Hooper, Dodge City, secretary-treasurer, and R. G. Klein, Dodge City, member board of censors. C. L. Hooper was elected as a delegate to the State meeting and G. O. Spiers, Spearville, was named as alternate.

C. L. HOOPER, M.D., Sec.-Treas.

OSBORNE COUNTY MEDICAL SOCIETY

The Osborne County Medical Society met at Osborne, Kansas, in the Davis Hotel at 6 p.m. where a turkey dinner was waiting them.

The following members were present: Doctors Johnson, Henshall, Miller, Felix,

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Parker, Swarts, Cross, Nye, Hartman and Schwaup. We had the pleasure of having with us our district Councilor Dr. C. C. Stillman of Morganville and Dr. F. R. Croson of Clay Center.

After dinner Dr. Croson explained the plan of the Federal Emergency Relief Administration in a very instructive way. This was well discussed by the members present.

Dr. Stillman gave a talk on the proposed idea of a full-time secretary for the state society as this will be brought up at the next state meeting.

Dr. Johnson, president of our society, then appointed the following committee: Doctors Nye, Schwaup, and Miller to draw up a form of our fees and see that it was sent to each member to sign after which it can be mailed to Topeka to be accepted by the Federal agent.

No other business, the society adjourned to meet some time soon for more consideration of plans.

S. J. SCHWAUP, M.D., Secretary.

RUSH-NESS COUNTIES MEDICAL SOCIETY

The physicians of Rush and Ness Counties, held a meeting at La Crosse, November 29 to discuss fee schedules, agreements and rules of procedure, relative to the Federal Emergency Relief Plan. At this meeting were members and non-members of the society. It was called to feel out and get each individual's opinion regarding fee schedules.

The general opinion was that fees have already been reduced from the 1929 level; that the grocer, landlord, telephone companies, gasoline service stations and others have not taken a cut when they furnish service, foods or necessities to county, state or federal indigents. The expenses of the physicians have not been reduced, although fees are less than in 1929.

The bulk of the people in these counties have a little property and consequently would not be on federal aid and therefore we would still have to do this work and wait for our pay and they would expect to have this done at the same price as the ones on the Federal Aid and it will put our fees lower than we can afford to work for.

The opinion was expressed that people will think the doctors heretofore have been charging too much and that the lower schedule is all the medical service is worth and would therefore establish a dangerous precedent to fee schedules. We reserve the right to cut fees and if we do the work and cut the fee the physician should be given the credit for the charity involved. Opposed to the idea from the standpoint of Panel Medicine as prevails in Germany today, and it would be a wedge or a forerunner of state medicine.

Finally the biggest objection is that it makes class distinction of patients; the distinction made by someone outside the profession.

The medical profession is being dictated to, too much now by laymen regarding fees. Labor unions are better organized than the medical men to protect their salaries. If the medical profession would get together and organize, no lay group would or could dictate the policies of organized medicine. The physicians then could tell them what they would or would not do.

The Rush-Ness Counties Medical Society at the meeting in Ness City, on December 12, elected the following officers: W. J. Singleton, La Crosse, president; N. W. Robinson, Bison, vice president and president-elect, and T. F. Brennan, Ness City, secretary-treasurer.

Four new members were elected: H. Erni, Bison; W. H. Ashby, and L. Stockwell, McCracken, and C. C. Bennett, Bazine.

W. J. SINGLETON, M.D., Sec.-Treas.

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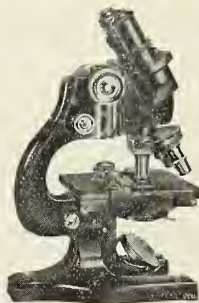
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SHAWNEE COUNTY MEDICAL SOCIETY

The annual meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, December 4, 1933. Preceding the program, dinner was served to 138 members, their wives and guests.

Guest speakers included: Hon. William J. Scott, of Abilene who talked on "Gleanings," and Prof. J. E. Kammeyer, of Kansas State College at Manhattan who discussed "Economic Quackery."

The secretary's report showed a total paid membership for the year 1933 of 136, in addition to four member elected within the past two months. In addition two were elected as emeritus members during the year.

Ten regular meetings were held during the year and one special meeting, the average attendance being 69.

Officers elected for 1934: Guy A. Finney president; M. L. Perry, vice-president; Milton B. Miller, treasurer, (re-elected), and Earle G. Brown, secretary, (re-elected). Forrest L. Loveland was elected to succeed himself as a member of the Board of Censors.

A special meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk on Thursday evening, December 14.

Consideration was given to the question of medical care in conformity with Bulletin No. 7 of the FERA. The fee schedule as prepared by the Public Relations Committee after some modification was ap-

proved, and the secretary directed to forward same to F. H. Marvin, Superintendent of Relief, in accordance with the agreement made by the Executive Committee of the state society and the Kansas Emergency Relief Committee.

EARLE G. BROWN, M.D., Secretary.

SOUTHEAST KANSAS MEDICAL SOCIETY

The Southeast Kansas Medical Society, composed of the nine counties in Southeastern Kansas, held its quarterly meeting at the Parish house of the Episcopal Church in Fort Scott on December 15, 1933.

The program, preceded by an excellent dinner, was as follows:

"The Treatment of Peritonitis," Dr. Thomas G. Orr, Kansas City, Missouri.

"Uterine Hemorrhage, Its Diagnosis and Treatment," Dr. I. Fulton Jones, Fort Smith, Arkansas.

"The Treatment of Brain Injuries," Dr. A. F. Hoge, Fort Smith, Arkansas.

"The Surgical Treatment of Pulmonary Tuberculosis," Dr. Fred Krock, Fort Smith, Arkansas.

There were sixty members and guests present at the meeting. The program was well received and every one showed a keen interest in the subjects discussed.

The society voted to hold the next meeting at Chanute in March.

The first meeting of the season was held in Pittsburg, September 12, 1933, with the following program:

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"The Care of the New Born and Establishment of Proper Dietary Scheme for First Year," Dr. Damon Walthall, Kansas City, Missouri.

"Series of Plastic Surgery Cases," with slides, Dr. Earl C. Padgett, Kansas City, Missouri.

"Hypertension and Its Differential Diagnosis," Dr. Lindsay S. Milne, Kansas City, Missouri.

Seventy people, including the guest speakers were present at the Pittsburg meeting.

HOWARD E. MARCHBANKS, M.D., Sec.

WASHINGTON COUNTY MEDICAL SOCIETY

The regular meeting of the Washington County Medical Society was held at the Hotel Tankersley on Tuesday, December 12, at 7 p.m., in Washington City.

Those who attended were Doctors H. G. Hurtig and F. H. Rhoades, Hanover; Z. H. Snyder, Lynn, and J. L'Ecuyer, Greenleaf; V. J. Wall of Mahaska, and H. D. Smith and D. A. Bitzer of Washington.

Doctors F. R. Croson, Clay Center, and C. C. Stillman, Morganville, were guests. Both visitors gave very interesting talks.

Dr. Z. H. Snyder presented a paper on "Treatment of Varicose Ulcers."

The next meeting will be held in Greenleaf, as guests of Doctors Snyder and L'Ecuyer.

D. A. BITZER, M.D., Secretary.

WILSON COUNTY MEDICAL SOCIETY

The Wilson County Medical Society had no meeting in September because of the Southeast Kansas Medical Society meeting in Pittsburg, and none in December because of the meeting in Fort Scott. On October 9, our society met at Fredonia at the Loether Hotel where dinner was served at 6:30 p.m. with the County Medical Auxiliary. Dr. O. D. Sharpe called the meeting to order at 7:30 p.m. The secretary brought up the matter of the Federal medical relief as outlined on page 1026, September 23, *Jr. A.M.A.*

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It was agreed to appoint a committee to be known as the Federal Medical Advisory Committee, composed of Doctors E. C. Duncan and W. H. Young, Fredonia, and O. D. Sharpe, Neodesha. This committee prepared a copy of the schedule in operation in this county as of July 1, 1933, and the society agreed to a 50 per cent reduction for those entitled to relief.

Doctors William T. Rich and J. H. Humphrey, recently located in Neodesha had been invited to attend this meeting. Both were present, applied for membership, and were elected. Dr. Johnson of Ford County who recently located in Buffalo was present. Doctors L. D. Johnson and Roberts of Chanute were visitors, Dr. Roberts being the speaker of the evening. He discussed laboratory methods in diagnosis, and Dr. Johnson talked briefly on intestinal parasites.

The society met again in Neodesha on November 13; dinner at 6:30 p.m. at the Brown Hotel. In view of the fact that we would hold no meeting in December officers for 1934 were elected as follows: A. C. Flack, president; J. L. Morehead, vice president; E. C. Duncan, secretary and treasurer, and O. D. Sharpe delegate to the next convention in Wichita.

E. C. DUNCAN, M.D., Secretary.

WYANDOTTE COUNTY MEDICAL SOCIETY

The last session of the Wyandotte County Medical Society for 1933 was held on December 19. Doctors H. R. Wahl and R. M. Kerr presented and discussed a number of interesting pathological specimens. Dr. L. B. Gloyne presented a clinical case for discussion and Dr. L. F. Barney read an interesting paper on: "Personal Observations in Local and Foreign Medicine."

Doctors Merle Parrish and C. Omer West gave a resume of plans for the annual party and banquet to be held at Quivera Club House on the evening of January 13, 1934. Following the dinner entertainment will be the installation of the newly elected officers after which the remainder of the evening will be given over to dancing and cards. Plans have been made to entertain approximately 250 at this party.

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Officers elected for the year 1934 include: O. W. Davidson president; F. S. Carey, vice president; Lewis Angle, secretary; Thomas Richmond, treasurer, and Guy Smith, member Board of Censors. Doctors C. Omer West and J. W. Faust were elected as delegates to the state meeting to fill the two vacancies.

O. W. DAVIDSON, M.D., Secretary.

R

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

A splendid report came in from Mrs. Paul Conrad of Hiawatha. They are a peppy, if small group, and will give us all something to strive for. Brown county's idea of an emergency kit is simply splendid. More power to you, Brown!

Central Kansas Medical Auxiliary met at Hays September 19, 1933. The ladies were guests of the Hays Music Club at a program and silver tea. A business meet-

ing was held at the home of Mrs. C. D. Blake; later the ladies met at the home of Mrs. G. C. Unrein to see her beautiful rock garden. The Hays doctors entertained the Auxiliary at dinner.

Wilson County Auxiliary met with the doctors at the Brown Hotel in Neodesha, Monday evening, November 13. Mrs. J. W. McGuire presided at the auxiliary meeting. A discussion was held on "Do You Want Your Boy to Play Football?" Affirmative: Mesdames Flack, Young, Sharp and Duncan. Negative: Mesdames McGuire and Smith. Mrs. Flack read a paper on "Youth and the Conquering Life."

Mrs. G. Leonard Woodruff of Colorado Springs, Colorado, was a guest of the Society.

The December meeting was held in Neodesha at the Wilson County Hospital with Mrs. Shepley, superintendent of the hospital, as hostess.

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THE JOURNAL

of the

Kansas Medical Society

Vol. XXXV

TOPEKA, KANSAS, FEBRUARY, 1934

No. 2

ORIGINAL ARTICLES

IS CHRONIC APPENDICITIS A MYTH?*

L. L. WOODFIN, M.D.

Osawatomie, Kansas

At a meeting of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons at Hot Springs, Virginia, in 1925, Dr. Robt. T. Morris¹ read a paper entitled: "Five Kinds of Chronic Appendicitis." At the same meeting Dr. A. E. Hertzler² read a paper in which he stated "a pathologic basis for chronic appendicitis does not exist." Faced by such contradictory statements and many others even more so, it is of little wonder that so many men now speak of lower right quadrant pain as "so-called chronic appendicitis" or hasten to apologize for being so bold as to use the term without some kind of a modifying prefix. It is difficult to speak of a disease whose very existence as a disease entity is denied by several leading pathologists.

Some of the misunderstanding has arisen out of the question of terminology. Chronic appendicitis means one thing to the surgeon, another to the internist, another to the roentgenologist and still another to the pathologist. As long as each one has a different idea of the meaning of the term it is obvious that there can be no agreement among those who write about it. In discussing a subject about which there is so much disagreement it is probably best to anticipate the questions of the readers and answer each by presenting the arguments advanced by each side.

What is chronic appendicitis? To answer this question one should inquire into the meaning of chronic inflammation. According to Karsner,³ Marchand

defines chronic inflammation as a process which shows prolonged exudation and prominent tissue proliferation particularly of the vessels and supporting tissues. This originates either in an acute inflammation or independently of it and develops gradually as the result of continued injury. All chronic inflammations are productive. The chief indication of chronicity is the formation of considerable amounts of connective tissue. This very picture of increased connective tissue, however, is also found in cicatrization. How then are we to tell chronic inflammation from cicatrization? It is very important because the former suggests an active process whereas the latter suggests a quiescent condition which is usually the end result of an acute attack. The answer is that the connective tissue of chronic inflammation must be accompanied by some of the coincident changes of inflammation such as the lymphocyte, the endothelial cell, and the plasma cell.

Is there any difference in the agent producing acute and chronic inflammation? In general it may be said that chronic inflammation is more apt to be caused by infecting organisms of low grade virulence such as by the infective granulomata of tuberculosis, syphilis and actinomycosis as well as by the animal parasites. Karsner says that chronic inflammation may be produced by causes which are low in virulence; by great resistance on the part of the host in the presence of greater virulence; by failure of the organism to remove an irritant which may thus act over a long period of time, or as a result of frequent attacks of acute inflammation.

Pathologically speaking a chronic appendix is an appendix which fulfills the requirements of chronic inflammation as set forth in the foregoing statements. As might be expected, those who constantly make diagnosis of chronic appendicitis go

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somewhat to extremes in concocting possibilities which they maintain the definition of chronic inflammation would justify. Morris¹ does this when he suggests the following as examples of chronic appendix: (1) Ordinary involuted appendix with replacement of structures; (2) scarred appendices following acute inflammation; (3) chronic low grade inflammation of appendix; (4) lymphoid hyperplasia in people with lymphoid diathesis; (5), chronic congestion in association with other parts, and (6) possibly malignant and tuberculous appendices.

How will the chronic appendix look grossly? Trotter⁴ offers the following as possibilities: (a) The quiescent appendix which may be distended throughout or in part with pus. It may also be that there is encysted pus outside of it. (b) The obsolete appendix which shows obliteration of the lumen. (c) The appendix which is abnormally fixed by either its mesentery or by its proximal half with only its tip free. (d) The appendix in which the calibre is not uniform, but shows moderate dilatation at the free end. (e) Lymphatic glands at the root of the appendix and in the ileocecal angle which have a subglobular shape and a glossy look of chronic inflammatory enlargement.

Knowing what an acute appendix looks like and having this array of possibilities of chronic appendicitis in mind one wonders what constitutes a normal appendix! It is evident from some of the descriptions of a chronic appendix that some men call everything abnormal which does not conform in every detail to the picture of the appendix in the histology textbook. Hertzler² points out that the normal appendix varies considerably in its makeup with the age and constitutional development of the individual. For instance he calls attention to the fact that the lymphoid tissue is more prominent in children; that the muscle coats become thinner in the aged and corpulent; that the fatty deposits in the subserosa bear a general relation to the habitus of the individual and but little to his past diseases; that the number of goblet cells become less with age, and that the loss of epithelium can readily occur in ordinary technic of slide preparation.

What does the clinician mean when he makes a diagnosis of chronic appendicitis? The correct answer to the question is that nobody knows except the man who made the diagnosis. Most such diagnoses mean pain in the lower right quadrant lasting over a considerable period of time and many diagnosticians go no farther than this in determining the underlying pathology concerned.

Some wit has classified appendicitis as acute appendicitis and appendicitis for revenue only. In defense of the many surgeons who would thus come under the classification of revenue collectors it should be said that this title is rather an unjust one and should be applied only to the surgeon who has adopted the motto, "never let the sun go down on an appendix," and who will operate on any person who will be still long enough.

However, when the sincere surgeon makes a diagnosis of chronic appendicitis he usually means one or the other of the following types of cases. First, the patient who has had one or more attacks of undoubted acute appendicitis. To some men a series of acute attacks over a long period of time means chronic appendicitis because of the number of attacks and not because of the condition of the appendix between the attacks. To other men such a diagnosis is made because they feel that the interval appendix is either scarred so badly as to predispose to another attack or that the appendix is infected with the organisms from the previous acute inflammation which simply smolder along until conditions are such as to allow a new flare up. In this case the chronic appendicitis is secondary to the acute attack. The second type of case is sometimes referred to as the primary type of chronic appendicitis. It is said to be chronic from the start; that is, there is no history of typical attacks, but the symptoms are of slow gradual development. This is the type which is liable to be associated with symptoms rather far removed from those usually associated with appendicitis. According to Fellows⁶ the symptoms are due to bands, adhesions and fecal concretions. Royster⁵ attributes the symptoms to three types of derangement, namely: to mechanical interference with the intestine due to

stasis, to reflex disturbances seen chiefly in pyloric spasm, and to toxic absorption from the appendix exhibited by general systemic signs. A third condition of the appendix recognized by Hathaway⁷ as chronic appendicitis is that due to tuberculosis, actinomycosis, and similar granulomatous conditions. Infestation with certain intestinal worms might be thrown in with this class. Hertzler is of the opinion that the granulomatous appendix comes nearer being a chronic appendix than any other condition affecting this organ, but he adds that he has never seen but three such cases.

The roentgenologist has given us a fourth type of chronic appendicitis. Many roentgenologists diagnose chronic appendicitis on *x-ray* findings alone therefore there must be something especially diagnostic about a chronic appendix following a barium meal. Fellows⁶ maintains that the appendix can be visualized in 65 to 75 per cent of persons not passed middle life. Abnormalities in size and position, the presence of fecoliths, cystic dilatation, and mobility can be made out and are good diagnostic signs. The two most important *x-ray* findings are the emptying time and the determination of the reaction of the patient to direct pressure over the visualized appendix. On the other side of the question Carnett and Boles⁸ stated that the very fact that there is no unanimity of opinion minimizes the value of *x-ray*. For instance they say that diagnoses of chronic appendicitis are made on anyone of the following pictures: (1) filling and slow emptying; (2) not filling at all; (3) filling in parts or segments; (4), tenderness of the organ as determined by simultaneous palpation and fluoroscopy, and (5) pyloric and iliac stasis. It would seem likely that most any appendix would show one or the other of these pictures. Carnett and Boles conclude that *x-ray* appendicitis is invariably laboratory appendicitis, but that neither of them is apt to be clinical appendicitis. Walton⁹ states that it is easy to see why an acute attack of appendicitis might produce changes which would make the appendix more prone to a future attack, but that it is difficult to see how inflammatory changes might persist for years being chronic throughout the whole

of their course and never progress to an acute condition and yet have such a profound effect on the body. Most of the writers seem to agree that chronic appendicitis should never be diagnosed unless there has been at least one acute attack.

With regard to the type which is secondary to acute attacks Hertzler emphasizes rather forcibly that appendicitis is an inflammation of the appendix and that an inflammation is a process and not a state. For this reason he chooses to speak of this type as recurring attacks of acute appendicitis. He has come to this opinion largely because of the lack of consistency with which interval appendices show an inflammatory process going on in them and also to the fact that appendices removed at operations for pelvic conditions and upon patients who have had no symptoms of chronic appendicitis many times show appendices in as bad or in much worse condition than many of those removed between attacks.

What are the symptoms of chronic appendicitis? It would probably be easier to name the symptoms which have not been attributed to the appendix as each writer lists his particular syndrome which he maintains is diagnostic of chronic appendicitis. Dr. Eastman¹⁰ gathered the following list of symptoms and signs: Nausea, vomiting, eructations, hard right rectus muscle, tenderness at McBurney's point, meteorism at the cecum, Rovsing's gas pressure pain, sex gland pain, weakening of the cremasteric reflex, funiculitis, pain on coughing and on introduction of the examining finger into the right inguinal canal, and on deep rectal and vaginal pressure; anorexia, disagreeable sensations on taking food; and obstipation with tenesmus and pain.

Royster⁵ lists 14 different signs advanced by 14 different people, all of them announced by their authors as being definitely diagnostic.

What conditions are liable to be confused with chronic appendicitis? Space does not permit a differential diagnosis in this paper, but it might be well to mention a few of the many conditions which give rise to symptoms that are diagnosed as appendicitis. Carnett and Boles point out that so-called chronic appendicitis is

most apt to be confused with a more generalized condition which involves the entire gastro-intestinal tract, especially the colon and the sensory nerves of the abdominal wall. They also state that nearly all patients having an operation for this disease are of a constitutionally inferior type many of them being asthenic, visceroptotic and giving evidence of nervous instability. These men therefore give visceroptosis and intercostal neuralgia as a cause of many of the confusing symptoms. Haberer¹² states that typhlitis cannot be differentiated from chronic appendicitis with the aid of existing diagnostic means. Hathaway⁷ believes that what most surgeons call chronic appendicitis is a dilated and mobile cecum. Boas¹³ claims that hyperalgesic skin areas which he calls pseudoappendicitis are many times mistaken for chronic appendicitis. Dowden¹⁴ adds the following conditions to the list: Gallbladder disease, renal and ureteral affections, cyclic vomiting of acidosis, incipient inguinal hernia, and tuberculous glands. Bonney¹⁵ points out that the incidence of operations for chronic appendicitis is much greater in women than in men whereas operations for acute appendicitis is about the same in both sexes. He mentions that chronic salpingitis, ovarian cysts, and conditions such as retroversion which produce a drag on the right ovario-pelvic ligament are the gynecological conditions most apt to be diagnosed chronic appendicitis.

What are the results of appendectomy in chronic appendicitis? With the advent of aseptic technique in the history of surgery, abdominal operations were made comparatively safe and appendectomy was hailed as a cure for the vague lower right quadrant pains from which patients had long suffered. Starr¹⁶ relates that operations for appendicitis at one time became so numerous that appendicitis clubs were formed by the operated patients in many of the larger cities of America. When it was learned that the lower right quadrant pain many times returned a short period after operation the medical profession was quick to hit upon the idea of adhesions to explain the reappearance of the pain. Then it was

learned that adhesions could be held responsible for only a few of the cases in which the pain returned after the operation and the surgeons began to wonder whether the appendices they were removing were really the cause of the trouble. This explains the birth of the cloud of doubt in which the diagnosis of chronic appendix is now surrounded. Results of appendectomy apparently differ considerably according to whether the writer is speaking for or against chronic appendicitis. From the data that Carnett and Boles have collected it seems that two per cent die from operation, 40 per cent remain unrelieved, and 11.6 per cent are made definitely worse by the operation. This does not take into consideration the economic loss of money and time.

Those who uphold the diagnosis of chronic appendicitis are more optimistic concerning the outcome of appendectomy. Deaver and Ravdin¹⁷ report 83 per cent of their patients completely relieved in a series of 500 cases. Maes¹¹ collected results of operations for chronic appendicitis at Charity Hospital and Touro Infirmary in New Orleans over a period of six years and reported a mortality rate of much less than one per cent.

Hertzler believes that if all cases of so-called chronic appendicitis were studied carefully they would fall into one or the other of the following classes: First, are cases where removal of the appendix is followed by relief of pains formerly complained of. Second, are cases where the pains persist or return after an interval of freedom following removal of the appendix. Third, are the cases where the error in diagnosis becomes obvious later on; and fourth, are cases in which groin pains are relieved without molesting the appendix. It would seem at first thought that if a patient's pains were relieved by appendectomy surely the diagnosis of chronic appendicitis must have been the correct one. This is not necessarily so because it might have been that the pains were due to visceroptosis and that the rest in bed made necessary by the operation relieved the patient instead of the removal of the appendix.

My listeners may ask what difference it

makes whether one calls the illness chronic appendicitis or some other name. The question seems to be of more than academic interest because of the following reasons:

1. If there is no such thing as chronic appendicitis many people have undergone operations for something that could not have existed and operation upon known non-existing conditions could almost be classed with the practice of quackery.

2. Various religious cults and anti-medical organizations have long been preaching against operations and other recognized medical procedures. If they read of the rather high percentage of unsatisfactory results of appendectomy for chronic appendicitis they are apt to twist this data into propaganda against all operations.

3. If two people out of every 100 operated upon for chronic appendicitis die because of the operation, or if 11 out of the 100 are made worse because of operation for a condition which does not exist it can easily be seen that such a diagnosis may be a dangerous one to make.

4. The diagnosis of chronic appendicitis is too often made an excuse for operation when the procedure should have been an exploratory laparotomy. The appendix is removed in operations for chronic appendicitis partly because the patient expects it to come out and is paying for such and the surgeon dislikes to disappoint the patient. However if the surgeon is doing an exploratory laparotomy the patient expects nothing in particular, the operators' attention is not fastened solely upon the appendix, and more time will be taken to seek out the real cause of the trouble.

Thus it may be that the establishing of the term chronic appendicitis or the official rejection of it for another term may be more important than would at first appear.

There can be only one conclusion to this paper because there is only one thing that all the writers agree upon. This is that there are far too many operations being done for lower right quadrant pains under the diagnosis of chronic appendicitis.

The original question of whether or not chronic appendicitis is a myth cannot be

answered. The ancients looked upon many things as realities which we now call myths; our own country once believed in the mythology of witchcraft and burned men at the stake to drive out devils. It may be that in years to come people will look back on the present period and speak of the great myth of chronic appendicitis when the sufferers' bellies were laid open resulting in the death or disability of many because the medical profession believed that these unfortunate individuals harbored such a thing as a chronic appendix.

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In 1932 an anonymous donor presented the sum of \$10,000 to the City of St. Louis with the request that it should be divided into ten annual prizes of \$1,000 each, to be known as the St. Louis Award and to be voted by an impartial committee of selected citizens to the person each year, a resident of metropolitan St. Louis, who had contributed the most outstanding service to bring honor to the community. The award for 1933 was given to Max A. Goldstein, M.D., "in recognition of his achievements and research in dealing with problems of the deaf." (*J. Mo. M.A.*, Dec., 1933).

ANALGESICS*

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The history of pain and its control dates from the very beginning of mankind. The ability to feel pain is a protective mechanism and without it the animal kingdom would become extinct. This is the more apparent when one considers the outcome of patients who have experienced attacks of coronary thrombosis or malignancies in silent areas of the body without pain. It is a common sight in leper colonies to see patients who have the anaesthetic type of leprosy, with ulcerations of extremities from burning. Many more examples of the dangers one encounters where pain perception is lost could be given. Our work, as physicians, would be much easier, as we all know, if every form of disease began with pain severe enough to cause the individual to seek relief from his family physician. Frequently, a patient with coronary disease dies without having had medical attention. Likewise, an individual with carcinoma of the greater curvature of the stomach may go untreated until near death. Syphilis causes very little discomfort until the late stages. This is also true of many cases of tuberculosis. Thus, after all, pain is really a friend to mankind. True, like many a friend, pain becomes unruly and runs wild at times, and this phase of pain and its control is the subject of my talk today.

There are a few fundamental principles with which one must be familiar in the use of analgesics. The most important of these principles is this: The efficiency of the analgesic used will depend upon the accuracy of the diagnosis. Without the full appreciation of this fact, I should consider a discussion of this kind unscientific and impracticable. That is to say: a patient suffering with pain in the epigastrium and vomiting would be relieved by atropine sulphate hypodermically if he has a pylorospasm, but if he had a coronary thrombosis, he may require morphine sulphate

grains one-half for relief and if he has a perforated peptic ulcer, he may be relieved by operation only. The key to the proper relief of pain lies in the ability to diagnose the disturbance in function which is causing the pain.

Next, we should understand the nervous mechanism of pain production. The neurones which are concerned in carrying painful stimuli belong to the sensory nervous system. This system consists of neurones divided in three main levels.¹ The first, or primary neurone, has an end organ for pain reception in the tissue where the painful stimuli originates. It extends to the sensory gray matter in the cerebrospinal axis. These neurones connect there with a secondary neurone that extends to the optic thalamus. The optic thalamus is connected with the cortex or with the thalamothalamic areas with the tertiary or third neurone. At the primary level there are connections with nerve fibers at different levels of the cord, so we may get pain sensations referred from one level to another in the spinal cord. Now the visceral or splanchnic mechanism for pain production is carried by the primary neurones in the sympathetic and parasympathetic nerves or the vagal system. The sensory portion of the splanchnic system does not have pain reception of the same type that the peripheral system has, so pain arising in the visceral areas is of a different character and is frequently referred to the surface of the body over the corresponding spinal segment. Thus pain from gall stone colic may be referred to the right shoulder, diaphragmatic pleurisy to the upper right quadrant, and coronary occlusion to the neck and both arms or to the left arm alone and sometimes to the abdomen.

There will be no attempt, in this discussion, to review all the analgesics used in the past or present for time will not permit. We shall, however, discuss the more common analgesics in use and describe their virtues and dangers. No one will deny that opium is the sovereign of all analgesics, for that reason we shall discuss it and its principal alkaloids first. The original home of the poppy was in Asia Minor and from there it was introduced into Greece.² Historians are not

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certain that Hippocrates knew of opium and if he did he probably made very little use of it. Theophrastus, in the third century, B.C., spoke of the milky juice of the poppy as meconian. Galen recognized its properties and used it extensively in his practice. The Arabs introduced it in the East. Paracelsus (1490-1540) developed much of his reputation by the use of opium. Its virtues in cholera, diarrhea and as an analgesic were soon recognized. Most of the "shot gun" prescriptions of the Middle Ages owed their effect to opium.

In 1803, Freiderich Wilhelm Adam Serturner discovered morphine, an alkaloid of opium.³ This was one of the greatest discoveries of the medical world and was done by a humble pharmacist with very little equipment or money, yet, considering the limited knowledge of his period, it remains a most brilliant discovery.

Opium contains two chemically distinct groups of alkaloids; the morphine group containing codeine, dionin and heroin, and the isoquinalin group represented by papaverin and narcotin. The most important effect of morphine is on the central nervous system. It depresses the brain, especially in the higher centers. The medullary centers are first stimulated and then depressed. The depressing effect of morphine on the higher brain centers makes it ideal for many medical uses. It not only relieves pain, but it also abolishes fear. Fear of suffering and of certain diseases, as you know, delays recovery in many instances. This may be illustrated by the fear engendered from anoxemia in pneumonia. The individual may not have any pain but he is restless, unable to sleep; some patients say they are afraid they won't wake up. Here repeated small doses of morphine are life saving. Morphine has but little depressant action on the spinal cord in man.

Upon the circulation morphine in therapeutic doses is slightly stimulating, affecting the heart muscle and the vagus and vasoconstrictor centers. Moderate doses will cause a noticeable change, while tonic doses will depress the breathing in proportion to the amount given. For this reason there is real danger in giving to children cough mixtures containing morphine

or its derivatives, such as dionin. We consider codeine much safer. Where one wishes to use morphine and avoid its effects upon the respiratory center, atropine sulphate grain 1/100 to 1/150 will help. Morphine also stimulates the vomiting center and makes its use in some cases almost prohibitive. Pantopon or panopium grain 1/3 hypodermically, in my opinion, causes much less nausea and its effects are more lasting. A new drug has been introduced lately named Dilaudid. It is dihydromorphinone hydrochloride and the usual adult dose is 1/32 grain hypodermically, or 1/24 grain by mouth. It is claimed by the makers not to cause nausea, depress respiration or to have very little effect upon labor pains. I have used it in only a small number of cases, so I am not able to praise its virtues. It did not produce vomiting, in my experience, and I think it is a drug that we should all try.

Morphine lowers the basal metabolism and carbon dioxide production is decreased while the oxygen exchange is unchanged. This undoubtedly explains some of its beneficial effects in pneumonia in addition to its sedative and analgesic value.

Codeine is much less depressing to the brain centers than morphine, but larger doses are required to produce analgesia. Codeine stimulates the spinal cord and may produce restlessness. This factor may be controlled by adding a small dose of one of the barbitol preparations by mouth. Codeine is an excellent analgesic to use where it is necessary to relieve pain over a long period of time as there is very little danger of addiction.

Paregoric or tincture camphorated opium is the most commonly used analgesic in diarrhea, usually combined with bismuth it is astringent and gives much relief.

Salicylic acid, chemically ortho-oxybenzoic acid, is an organic acid existing naturally in the oils of wintergreen and sweet birch in the form of methyl salicylate. The sodium salt of salicylic acid was first introduced as Salicin by Maclagan in 1876. Hanzlik and Hewlett have shown that the natural product has no advantage over the synthetic. There is very little difference in their toxic doses; the toxic dose for men

ranges between 100-200 grains, giving about 15 grains every two hours.⁴ Women require about four-fifths of this dose. If we wish to obtain the full therapeutic value of salicylate medication, it must be pushed to toxicity. These toxic symptoms consist of buzzing in the ears, nausea, vertigo, vomiting, headache, and impaired vision. We usually warn the patient to decrease the dosage when his ears start buzzing, and with this precaution, we have never seen any severe reaction.

The salicylates act both centrally upon the optic thalamus and locally by causing vaso-constriction. Locally it may be used as oil of wintergreen, which is very useful in acute rheumatic fever; the swollen joint is covered with it and then wrapped in cotton. Many of the common household remedies owe their analgesic properties to it. Internally, we combine sodium salicylate with sodium bicarbonate as it is better tolerated in large doses. If the patient is unable to take the therapeutic amount by mouth, we administer 60 to 90 grains in starch water by rectum. Ten to 15 drops tincture opium may be added to this mixture if there is a tendency to expel it. The intravenous method of administration may be used when other methods fail, but rarely have we found this necessary.

Aspirin: Acetylsalicylic acid is the acetyl derivative of salicylic acid. The usual dose is five to fifteen grains. It was claimed that the drug passed through the stomach unchanged, but Hanzlik and Presto have demonstrated that it can be set free in the stomach by the action of gastric juice. The common idea that "I can't take aspirin, doctor, because it affects my heart," is probably the result of the irritating effect of salicylic acid which is liberated and produces heart burn.

Aspirin is not a cardiac depressant. It has been found, actually to be a cardiac stimulant causing increased heart rate and blood pressure rises in animals upon its intravenous administration. (*Boston Med. & Surg. Journal*, Feb. 21, 1924). Considering the wide use of this drug, very few poisoning cases have been reported. The chief symptoms are: Edema of the face, especially about the eyes, sometimes involving the larynx. A papular rash is also

seen at times. The production of the toxic symptoms is not dependent on the size of the dose nor the length of time the patient has been taking the drug. A recent report of an allergic patient, dying after taking one five grain aspirin tablet should make one very cautious in administering aspirin to allergic individuals.⁷ Aspirin has been found by Hanzlik⁴ to be more toxic than sodium salicylate. This increased toxicity of aspirin is overcome by the fact that it is more efficient in its analgesic properties.

Therapeutics: Due to the tremendous amount of advertising and the many ways in which it is dispensed, the analgesic effect of aspirin has become household knowledge. It may be used with advantage in acute rheumatic fever and the dose should be 10 to 15 grains every 3 or 4 hours, and then decreased as the patient's condition warrants. Neuralgia, sciatic neuritis, headaches, and dysmenorrhea are other conditions in which much relief is usually obtained. We should remember that the dose is not always five grains. Hanzlik, in 1913, showed that most people will tolerate as much as 150 to 160 grains in 24 hours without toxic symptoms having been produced. This large dose should not be continued upon the appearance of toxic symptoms, but I think we frequently fail to get the therapeutic effect of the drug because of insufficient dosage. By combining aspirin with codeine or amidopyrin, one may enhance its value where relief is not obtained with aspirin alone.

Sal-ethyl carbonate is a new form of salicylate and is claimed, by the makers, to be unaffected by the acid secretions of the stomach and thus not decomposed until in the intestine. I have not used enough of it to be convinced that it has any advantage over sodium salicylate. We have found that potassium iodide enhances the effect of sodium salicylate. This effect may be from metabolic changes.

Antipyrin, chemically phenyldimethylpyrazolon sometimes known as analgesin, is not as widely used today as formerly. There have been too many fatalities reported for one to consider it safe. The entire central nervous system may be depressed by the drug and motor paralysis with anesthesia may ensue. If the dose is

large enough, one may get a respiratory collapse.

Pyramidon, official as amidopyrine, is a drug with similar action as antipyrin, without its toxic qualities. Its influence is probably both central and peripheral. In ordinary doses, its effect is mostly peripheral. It is an excellent analgesic in various peripheral nerve pains. Combined with small amounts of codeine, it is very effective in the relief of tabetic pains. Some individuals are sensitive to the drug, however, complaining of restlessness and an irritation of the skin. Amidopyrin has been used in five to ten grain doses every four hours with relief in acute rheumatic fever.

Acetphenetidin, commonly known as phenacetin, is a coal tar antipyretic, and its action is thought to result from changes in the meningeal vessels.⁵ It is an effective analgesic in the relief of headache, neuralgia and muscle pains, but not of pain due to trauma. The habitual use of this drug may lead to methemoglobin, but this danger is never so great as in the use of acetanilid. I think the moderate use of phenacetin combined with aspirin or pyramidon is of value and involves very little danger.

I wish to call your attention here to acetanilid as a very dangerous drug. Anyone with drug store experience becomes acquainted with certain individuals who have a peculiar cyanosis, who drink several bromo-seltzers a day, or purchase certain headache powders very frequently. Those who become addicted to this drug develop a craving for it and have definite withdrawal symptoms when unable to obtain it. They gradually develop a chronic cyanosis from its use and many develop various abdominal symptoms; cramps, pain and nausea. They seek relief from the abdominal symptoms and may be operated upon. These people, due to their lowered oxygen carrying power, take anesthetics very poorly, and with great risk. Any patient with cyanoses should be questioned about headaches, and what is used for relief. If necessary, the blood should be examined for sulphhemoglobin and methemoglobin. For many years it has been the accepted fact that acetanilid and the aniline dyes produce methemoglobin but

more recent work has shown that it is sulphhemoglobin that is produced.^{8, 9, 10} I have listed here a few of the more common preparations containing acetanilid:

Tyler's antidote	grains	4
Stark's headache powders...	"	5
Kohler's antidote	"	5
Orangine powders	"	2-4
B. C. headache powders....	"	4
Penslar headache tablets....	"	2.5
Avol tablets	"	2.5
Acquin tablets	"	3
Bromo-seltzer	"	20 to 1 oz.

This is a dangerous drug and very few physicians prescribe it; I mention it to refresh your memory of it as a possible etiology of chronic cyanoses. The observations of Snapper, Harrop and Waterfield indicate that the ingestion of acetanilid and phenacetin may sensitize the blood so that small quantities of hydrogen sulphide then produce a chemical union with the hemoglobin forming sulphhemoglobin, and it is this change that is responsible for the cyanosis rather than the methemoglobin.^{8, 9, 10, 14}

Finally, we come to cinchophen, a drug which, in recent years, has caused the death of many. Cinchophen is phenylcinchononic acid and has the antipyretic action of quinalin and, like salicylic acid, is analgesic. It was first introduced in 1908 for the treatment of gout. It is known to increase the elimination of uric acid but it also has a very profound toxic action on the liver.^{15, 16} The first case reported in the literature, of fatal poisoning was by Cabot in 1925. Fifty fatal cases were reported up to 1930 and since then many more have been added.¹⁶ There are undoubtedly other fatal cases that have gone both unrecognized and unreported. In the breaking up of this drug, toxic ring compounds are formed which produce a degeneration of the liver. In some instances it is possible to stop the degeneration by discontinuing the use of the drug; in others, the process goes on unabated to death. Some cases have followed the use of fairly small doses of the drug, while others come on after taking it over periods of several months. If the reaction is mild, the patient may have only an urticaria with nausea and vomiting. If more severe, he may show signs of shock, and, withdrawing the drug, he may completely recover. If the process goes on, he will finally develop a high grade jaundice which

will gradually deepen as the degeneration of the liver becomes more complete. Finally, there is definite liver atrophy, some individuals having been found to have very small livers. This process is usually accompanied with fever, nausea and vomiting, and some pain. These patients are at times operated upon and their conditions are made worse by the toxicity of the anesthetic on the already sick liver. All patients with jaundice should be questioned about the use of rheumatic cures if we wish to avoid needless and harmful operations. This will also reveal the etiology of many an unexplained case of yellow atrophy of the liver. The treatment consists of a high carbohydrate diet, with glucose (5 per cent solution) by rectum, or, if necessary, glucose may be given intravenously by the drip method. Insulin, 5 to 10 units, three times daily has been recommended; calcium also has been shown to protect the liver against various poisons and its use may be beneficial.

Calcium gluconate, grains 15, three times a day by mouth may be given, or one ampule of the same intramuscularly. A list of the common preparations containing cinchophen is given here to acquaint you with its various forms used.

Atophan	Neo-cinchophen
Novatophan	Leucatropen
Atophanyl	Atophan-urotropin
Duodoatophan	Fantan
Bilaptin	Iraphon
Oxylodide	Tolysin
Quinaphen	Weldona
Agotan	Farastan
Oto-quinol	

I have discontinued the use of cinchophen entirely until more is known about its toxic action. We are using an old drug combined with salicylates and believe the results are nearly as good as with cinchophen. Many of you are more familiar than I with this drug. It is colchicum and is used as the tincture in doses of 15 to 20 minims. The wine of colchicum may also be used in doses up to 30 minims. Colchicum may be given in doses from 1/120 grain to 1/60 grain. Nausea, pain in the epigastrium, diarrhea, and loss of appetite indicate toxic doses of the drug and should be discontinued.

Speaking of the older drugs, the analgesic properties of quinine should not be overlooked. While some have warned,

against its use combined with aspirin, claiming it to produce a toxin, I have used it repeatedly combined with sodium salicylate with great relief in influenza. I have yet to experience any serious effects.

In concluding I should like to emphasize:

1. The importance of a careful diagnosis.
2. The appreciation of the sensory nervous system.
3. The fear factor associated with pain.
4. That opium and its derivatives are drugs of great value in certain instances of suffering but should be used carefully because of possible drug addiction. We never employ it where relief may be obtained by the use of other drugs.
5. That some drugs in common use are dangerous and should be discontinued, namely, antipyrin, acetanilid and cinchophen.

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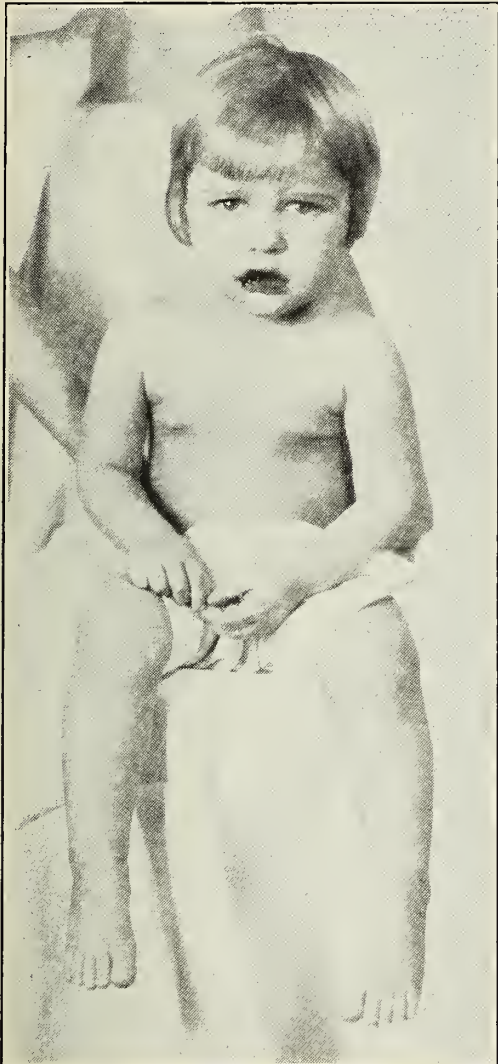
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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Early Essential Thrombocytopenia (So-called purpura hemorrhagica)

ROBERT H. MAXWELL, M.D., and LESLIE B. SMITH, M.D.*

Infant, L. G., white female, aged 29 months, was admitted to the hospital January 11, 1934, with a chief complaint of periods of swelling of hands, legs, feet and face; bruised and black spots occurring on hands and feet; bleeding from lips.



Visible lesions at time of photograph; bleeding and ulceration of lower lip and ecchymosis of ankle and feet.

Child was apparently in good health until January 1, 1934, at which time she contracted an upper respiratory infection; characterized by cough, nasal discharge and slight elevation of temperature (not recorded). Three days from the time of onset the mother noticed large red splotches, resembling bruised areas on the skin of the lower extremities and chest. At this time, a small fever blister appeared on the upper lip which bled quite freely; also it was noted that the arms and legs were much swollen. The child was put to bed because she was very fretful and seemed to have pain on moving extremities, and they were tender to palpation. The swelling occurred intermittently and was more noticeable during the time the child was ambulatory.

The earlier history reveals that the conditions at birth were normal. Weight was 7½ pounds. Feedings were breast milk. The gain and general development were satisfactory. Patient had pneumonia and chicken pox at the age of 17 months with uncomplicated recovery. The child has lately been on a varied diet of fruit juices, vegetables and iron-containing foods with adequate amount of cod liver oil.

The family history contained nothing of importance relative to this disease. No obtainable history as to bleeding in other members of the family, either on maternal or paternal sides.

Physical examination revealed a moderately well-nourished girl, weighing 25 pounds, with edema about the left eye. The conjunctiva and sclera free from petechiae; eye grounds normal. There was an ulcer, 2x1 centimeter, on mucous membrane of the upper lip which bled freely. The use of a tongue blade caused bleeding of lower lip and gums. The other structures of the mouth were normal. The tonsils showed nothing indicating infection. No palpable cervical glands had ever been present. Auscultation and percussion revealed no apparent pathology, but on inspection many minute red pin-point petechiae could be seen upon the chest. Abdomen was not distended and no organs were palpable. On the lower legs and ankles were found ecchymotic areas, varying in size from .25 centimeter to one centimeter in diameter. A tourniquet was ap-

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plied to the right arm for five minutes, and immediately there appeared many petechiae, covering the entire arm below the tourniquet. One hour after the tourniquet was removed the entire arm became very painful and was swollen three times its normal size.

Examination of the red blood cells revealed a count of 3,450,000; hemoglobin 61 per cent; white blood cells 13,900; polymorphonuclears 60 per cent; lymphocytes 34 per cent; eosinophiles 2 per cent and metamyelocytes 4 per cent. No abnormal cells noted. Platelet count was 110,000. Bleeding time 6 minutes; clotting time 10 minutes (Lee and White); clot retraction somewhat delayed. Wassermann and Kahn were negative. Urine negative for blood. Occult blood was found in the stool by means of the Benzidine test.

The patient remained in the hospital 11 days, during which time she received daily irradiations of tonic doses of ultra violet together with 30 drops of viosterol. On January 19, 1934, 300 cubic centimeters of citrated blood from the mother was given. The blood count rose to red blood cells 4,890,000; hemoglobin 81 per cent and platelets 140,000. The oozing of blood from the mucus membranes stopped and there was no recurrence of petechiae.

The child was seen in the out-patient department two weeks after dismissal and she was free from symptoms. Her platelet count had risen to 180,000.

DISCUSSION

Dr. Frank C. Neff: The clinical presence of purpura on the skin is the symptom which causes the most concern both to the anxious parent and also to the physician. The nomenclature of purpuras is large and confusing and is principally based upon the existence of purpuric spots on the skin, one of the least important symptoms even of the hemorrhagic manifestations. It would be well to adopt McLean's suggestion that essential thrombopenia be designated as "hemorrhagic thrombocytopenia" because there are both a deficiency of blood platelets, and there are various tissues besides the skin which undergo bleeding.

One has to rule out of the diagnosis on

the basis of platelet deficiency the question of acute lymphatic leukemia, the most common of the severe blood dyscrasias in childhood. Here too, the platelet count is always strikingly low, the count in one of our recent cases being 54,000. The disease appears acutely and the course is rapid. The clotting time is not ordinarily affected, though the bleeding time may be increased. The differentiation from essential thrombocytopenia is made from the many striking cell findings in leukemia.

This clinical entity should always be separated from hemophilia, which has a normal platelet count, a positive family history and compression arrests the bleeding.

Transfusion is the recognized treatment for essential thrombocytopenia. A long-continued course will bring up the question as to therapeutic splenectomy. This case will require more observation before the present diagnosis can be confirmed. In the meantime transfusion will be repeated if necessary.

—R—

Another Hay Fever Treatment.—The Leach "New Filtration Method" in Hay Fever.—The "New Filtration Method" in the treatment of hay fever and allied conditions, said to have been originated by a Dr. Edwin S. Leach of Junction City, Kan., is discussed by the Bureau of Investigation of the American Medical Association. The "treatment" which constitutes what Dr. Leach calls his Filtration Method is essentially that of first swabbing the nasal tissues with a 2 per cent solution of cocaine and then the application of "Rhino-Form Single Strength." The nose and throat are then sprayed with an oil spray. After from one to three days' treatment of this kind, "Rhino-Form Double Strength" is used. If this brings about a "profuse bloody discharge," this is said to indicate a mere "sloughing away of all superfluous tissue and is in no way indicating harm being done to the membranes." In some of his mimeographed material Dr. Leach has vaguely described "Rhino-Form" as a "silver solution obtained by treating silver nitrate with an alkaline proteid." Dr. Leach was written to by the A.M.A. Chemical Laboratory, inquiring whether Rhino-Form was or was not a secret formula, and asking, if it were not, whether Dr. Leach cared to furnish an accurate definition of its composition, stating the amount of silver, ionic and non-ionic, as well as the amount of silver protein. No information was furnished. The A.M.A. Chemical Laboratory analyzed Rhino-Form (Double-Strength) and concluded that it consists essentially of a "neutral" solution of silver nitrate of approximately 7 per cent strength and a small amount of a silver-bearing solid, possibly a silver protein compound and possibly some silver oxide; according to the label, the solid is not for therapeutic purposes. (Jour. A.M.A., December 9, 1933, p. 1897).

CASE REPORTS

Treatment of Cyanide Poisoning with Methylene Blue (Methylthionine Chloride); Case Report.

MAURICE A. WALKER, M.D.*

Kansas City, Kansas

On June 22, 1933, following an argument with his estranged wife, a white man, 26 years old, drank about 60 cc. of a solution of sodium cyanide of an unknown concentration. A police ambulance delivered him at St. Margaret's Hospital within ten minutes thereafter. He was semicomatose, and his skin was cyanotic and cold. The pulse rate at the radial artery was about 140, with a weak thready beat. A strong odor of cyanide was noticeable far from the room to which the patient had been taken.

In the clinical laboratory of the hospital, some methylene blue from the stock of dyes was hurriedly dissolved in ordinary distilled water in a clean but not sterile beaker; it was afterwards estimated that the solution was approximately one per cent. A sterile burette suitable for the administration of fluids intravenously was available. Within two minutes after the patient had arrived at the hospital, this crudely prepared solution was flowing into a cubital vein.

After about 60 seconds, 50 cc. of the solution had been administered; the patient was able to remonstrate against treatment, his pulse was slower and stronger, and the cyanotic color of the skin had disappeared. After two minutes, when 115 cc. of solution had been infused, the patient's skin was seen to be turning blue of a different shade from his previously observed cyanosis. He was also highly excited and sweating profusely, so the infusion was stopped.

Several attempts to introduce a tube for lavage of the stomach were unsuccessful because of lack of cooperation by the patient. Since his general condition now seemed fairly good, 0.006 gm. (1/10 grain)

of apomorphine hydrochloride was administered subcutaneously. About 500 cc. of blue liquid with a strong odor of cyanide was vomited.

No other medication was necessary. The patient ate and rested normally. His urine and perspiration were distinctly blue. He left the hospital 20 hours after admission, apparently perfectly well.

COMMENT

Unfortunately, no chemical examinations of the blood or vomitus were made to determine the quantity of cyanide present. Therefore, the role of the methylene blue as a cause for the recovery of this patient is subject to question. Nevertheless, it seemed desirable to describe the preparation and administration of the dye by methods which could be immediately employed in any hospital or doctor's office, and which were here followed by the complete recovery of the patient.

Relapsing Fever

HAROLD O. CLOSSON, M.D.

Ashland, Kansas

Relapsing fever has occurred in practically all European countries. Obermeier, in 1873, discovered and published his findings of a spirillum in cases of relapsing fever. He named it *S. recurrentis*. In the United States the disease occurred in 1844 and 1850 in a Philadelphia hospital. In 1869 it became prevalent in New York and Philadelphia. Sporadic cases in immigrants have since been occasionally observed. During the World War many American soldiers in Europe were infected. In 1915, five cases were reported in Colorado, two in which spirochaetes were demonstrated. In 1918, Waring reported one case in the same locality. In 1930, several cases were reported from a locality in central Texas.

Experimental work has shown that the disease is transmitted by crushing of lice, ticks or bedbugs into abrasions of skin. It can be transmitted by bites.

During the past four years, I have observed five cases and Dr. I. R. Burket of Ashland, six cases of relapsing fever. Diagnosis was confirmed in each case by

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finding the spirochaete in the patient's blood. The ages of the patients I observed, varied from 13 to 54 years; one female and four males. All were farmers except one who was a laborer and lived in town. Cases were scattered over the entire south half of Clark County and did not seem to concentrate at any one point, except three cases which occurred on the same premises; two one summer and one the next.

Cases have all been more or less similar in symptoms and clinical findings. They became ill with generalized severe aching, severe backache, joint pains, and in most cases headache, malaise and occasionally nausea and vomiting. No distinct chills but persistent chilling sensations.

Temperature in the first phase of fever varies from 102° to 105° and lasts for five days. In each case a generalized macular rash developed on the fourth day. The rash disappeared in 24 hours and did not return. The fever and symptoms disappeared with the rash, following which there were usually profuse sweats. The interval between relapses varied from two to twelve days and as the disease progressed, both the intervals and the period of fever became shorter and very irregular. Temperature might last only a part of a day, but returned every other day, the height varying from 100° to 104°. If the patients were in bed and quiet, they felt quite comfortable during the intervals between fever. The pulse varies with the temperature and is not unusual. Physical examination was essentially negative. No splenic or hepatic enlargement was noted. The white blood count in each case was around 18,000. Urine was negative. Blood smears stained with Wright's differential stain showed the spirochaetes nicely, but the ease with which they were located varied, from one spirochaete to fifteen fields, to one in one hundred fields. They were found most easily when the fever was at its height.

A specimen of citrated blood taken during a relapse, was sent to the Public Health Laboratory at Topeka. Blood was injected into three white mice. In two days one mouse was bled and blood was injected into another mouse. Blood from both mice showed the presence of spirillae resembling *Spirochaete recurrentis*.

One patient had been ill for more than five weeks and had been diagnosed measles because of the rash. He had lost 40 pounds in weight. The disease showed no signs of being self-limited as has been reported.

One patient became reinfected in just three months. He had had a typical initial phase and one relapse; and was given two doses of neo-salvarsan. He felt perfectly well for three months when he became suddenly ill with general severe aching, pains in joints, headache, and a persistent sensation of chilliness. Spirochaetes were found in his blood. One dose of neo-salvarsan was given. No relapse followed.

A definite meningitis developed as a complication in a man 54 years of age. The first phase of fever was typical, though spirochaetes were not demonstrated until during the first relapse. Neosalvarsan 0.4 gm. was given intravenously. In ten days he was seen again with the story that he had not felt entirely well since the first relapse. His temperature was 102°. His chief complaint was headache; 0.6 gm. neosalvarsan was administered. During the next forty-eight hours his headache became more severe. He developed a stiff neck, a positive Kernig and a right facial paralysis. The spinal fluid was under increased pressure with a cell count of 90. No organisms were found in the spinal fluid. Spinal drainage was done twice and recovery was prompt except for the facial paralysis which cleared in about two months.

Treatment in all our cases has consisted in the administration of arsenicals intravenously. Both sodium cacodylate 1 gm. or neosalvarsan 0.4 to 0.6 gm. were used. In a few cases one dose was all that was needed, but several required two or three doses before the relapses stopped. Neosalvarsan is more effective.

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REPORT OF COMMITTEE ON PROPOSED FULL-TIME EXECUTIVE-SECRETARY

FOREWORD

In the preceding number of the Journal, the state society committee, consisting of Dr. C. C. Nesselrode and myself, has presented some of the facts regarding full-time executive secretaries in other state medical societies. This completed the first part of the duty of this committee—namely, to present available information in regard to this subject.

The second duty of the committee has been to present, as well as possible, the arguments and reasons for and against a full-time executive secretary for our own society. It has not been the duty of the Committee to present its own views or to present any specific recommendations of its own in this matter.

The Committee has divided this part of the work in order to present these matters and I am presenting in the following article the views of those who favor a full-time executive secretary for our own society.

HENRY N. TIHEN, M.D.

The Question in Favor of a Full-Time Executive-Secretary

Whereas, State medicine and its attendant evils is close upon us,

Undesirable federal medical legislation is threatening the existence of the private practice of medicine,

There is a constantly increasing and increasingly successful legislative activity by the cultists in our state,

The cultists are in a favored position to force themselves into our hospitals through the present chaotic status of medical legislation in this state,

The poor quality of our stereotyped annual meetings is well attested by the general lack of interest and poor attendance at these said meetings,

The laws governing medical practice in Kansas are in a loose and chaotic condition,

The regular medical profession of Kansas has been whipped to a frazzle by single individuals, small groups of laymen with special interests and by the cultists.

Whereas, the record of the past 20 or 30 years has shown indelibly the fact that the present type of organization is unable to cope with the problems affecting the medical profession,

There is no reason to hope that the present type of organization can suitably safeguard the interests of the medical profession of Kansas,

The medical profession in several other states has successfully corrected similar conditions by the employment of a full-time executive secretary,

It is the belief of a great many members that some progressive, effective change should be made in our state medical society to enable it to cope with the problems of the profession,

It is the belief of many members that the most practical effective change that can be made is the employment of a full-time executive secretary stationed at a central society office at the legislative center of our state, namely Topeka,

There follows an elaboration of these opinions held by the members who favor the employment of a full-time executive secretary for our Society.

1. *Does our state society need a full-time executive-secretary?*

The function or functions of our state society should be held clearly in mind in any consideration of its organization. The two chief functions really blend into one and are: First, service to the general medical profession of the State of Kansas and the protection of their welfare; and secondly, through them, service to the public of the State of Kansas and the protection of the public welfare in medical matters. This function includes scientific, legislative, and economic services, each phase assuming a great deal of importance. With this in mind we must ask: Is and has our present state medical society organization been able to carry on these functions efficiently?

The last annual meeting of our state medical society at Lawrence served to call to mind that the founding and first meeting of our society occurred at Lawrence 75 years ago. The organization as developed at that time undoubtedly seemed to be of a suitable nature for meeting the needs of the medical profession of the state at that time. However, as one reviews the situation there seems to have been very little if any change in our organization since its first inception 75 years ago. We are all acquainted with the fact that we could not continue in the practice of medicine if we remained at a standstill for 75 years in our scientific methods. It seems very questionable if we can remain at a standstill in our organization methods for 75 years without serious detriment; and it seems to many members of our state society that our present organization is no longer able to cope with the many social, political, and economic problems facing the general profession of the State of Kansas today. A brief review of a few of these problems would seem to indicate at least four major lines of battle before the profession as follows:

First is the development of state medicine by our federal government. For a number of years federal legislation as recently exemplified in the legislation for the medical care of the veterans has been an ever growing menace to the private practice of medicine. The details of this danger have been apparent to almost every medical man. Fortunately for the medical profession and for the future of medicine the general situation of our country and the courage and wisdom on the part of our new president have called a temporary halt in this situation. However, do not think for one instant that this fight is over. The same political forces backing this movement still exist and will be brought to bear at the first favorable opportunity. Is our state society doing anything to unite the efforts of the profession throughout the state to fight for a prevention of the return of these evils?

Second is the development of state medicine by the State of Kansas. There has been a gradual but definite current in this direction for some time. Perhaps the most recent development along this line is the State Crippled Children's Law. A few years ago a few laymen decided that there should be such a law. They hired an executive-secretary and in two years time had such a law written and passed to their satisfaction. Was the state medical society on the job before this law was passed? Was the state medical society awake to the interests of the general profession in this matter? Did our state society have any influence

over the appointments to this Crippled Children's Commission after the law was passed to secure some degree of medical judgment in its administration? This is only a forerunner of what may come in state medical legislation. Can the position of the general medical profession in our state be properly safeguarded by our present type of state medical society organization? If a lay organization with an executive-secretary can secure the passage of such far reaching medical laws in two years time what might not the united medical profession secure working through a full-time executive-secretary?

Third is the practice of medicine by a large number of poorly qualified men, as evidenced by the rapidly increasing number of cultists. This situation can be combated only through the passage of a basic science law, a very desirable piece of legislation from the standpoint of the public good as well as from the standpoint of the medical profession; but its passage is impossible without a better organization at the disposal of the legislative committee of our state society.

Fourth is the line of our public relations. This is a large term but covers much of importance. Our present and our future position lies under the control of the public. It is vastly important that the public understand us. No matter how strong may be the foundations upon which our position rests it cannot be safe unless we are held in a favorable light by the public. We do not expect our public relations to be based upon any false principles, nor do we wish to be placed upon any false pedestal before the public; but we would like to have a public informed as to our high training, our high ideals, and the earnestness of our work, as well as to the dangers of loose laws which permit charlatans and improperly qualified individuals to care for the sick.

The annual income of the medical profession of Kansas is somewhere between seven and ten million dollars. A goodly amount of this—probably one or two million dollars—each year is being directed into the coffers of the poorly trained cultists and charlatans because of lax laws in regard to medical practice. It is reasonable to suppose that proper organization of our state medical society during the past 15 years could have prevented this. This is the price that the regular medical profession is paying for having an ineffective type of state medical society organization during the past 15 years. Many other organizations with a less income than our profession have recognized the importance of properly maintaining their position in legislative matters and before the public and especially in matters of legislation. Can the medical profession afford to do less?

A further fact for consideration is the circumstance that out of 2200 physicians in the State of Kansas, only 1200 think enough of our present state organization to carry its membership. An active society will undoubtedly attract a great many more members than does our present more or less inactive organization.

It is well to consider what is held in mind in regard to an actual plan for a full-time executive-secretary. This man should be a full-time employee of our state medical society, devoting all of his time and work to our interests, occupied 365 days out of each year with thoughts of our welfare. He should be located in a central state medical society office, located in the legislative center of our state, namely at Topeka. His office should be combined with the Journal office and all of the business details of its publication should be under his direction.

This man works at all times under the control and instruction of the state society officers, the Councilors, the House of Delegates, and the state society commit-

tees. The officers, the Councilors, Delegates and committees lay out their plans for their work. This executive-secretary helps them to carry out their work and their plans. He and his work are at all times under the direction and control of the state society through their regular officers and committees. Experience of many other societies with executive-secretaries seems to indicate that a training in journalism or in law is of especial value in this work. Attention should be called to the fact that this is not an untried procedure. At the present time 16 county medical societies and 13 state medical societies already have full-time executive-secretaries.

2. *Should the executive-secretary be a physician or a layman?*

The first requisite is a man of character, ability, industry and good personality. Other qualities are much less essential. A layman with these qualities can be secured at considerable less expense than a physician with the same necessary qualifications, as a physician with these qualities will be very successful in his practice.

A very important part of the executive-secretary's work is in legislative matters and in public relations matters. To be successful in these affairs it is necessary to have a man able to approach the legislators and the public understandingly on their own grounds and in their own spirit, a matter which is most difficult for nearly all physicians. Our present position in these matters will attest to our own inability to properly handle these affairs.

Likewise a layman will certainly have fewer medical attachments and it will be much easier for each committee to form and direct the policies of the layman than it would be in the case of a physician secretary who is apt to have his own opinions. Likewise, it would be much easier to control a layman and much easier to dispense with his services at any time that the society deems desirable. It is not easy for us to dismiss a physician from our own ranks and we may let sentiment over-ride expediency and wisdom.

3. *What financial changes are necessary for the employment of a full-time executive-secretary?*

PLAN NUMBER ONE

Maintenance of state dues at the present figure but with re-budgeting of finances. At our present membership of 1200, which probably could be considerably built up by a more active state society, there is a yearly income at \$7.00 per member, of \$8,400. In addition there is a reserve of \$11,700 in the defense fund and \$6,000 in the general fund, making a total cash reserve of \$17,700. By use of the present annual income from the dues and by the cautious use of the balance piled up in the general and defense funds there would be sufficient funds available for at least a four years' trial of this plan without any increase in dues. The chief labors at the offices of Dr. J. F. Hassig, Dr. Earle G. Brown and Dr. O. P. Davis would be done by the office of the executive-secretary, with a saving of these salaries which total approximately \$4,000 per year—this money then being used toward the expense of the executive-secretary and his office. The executive-secretary could carry on all of the business details of the Journal. A Journal Committee from the Shawnee County Society would undoubtedly be willing to furnish gratis the medical supervision of the Journal.

There is a great deal of evidence that a well qualified layman could be employed for this office at a yearly salary of from \$2,400 to \$3,000. A physician with equal requirements of personality and character will cost considerably more.

PLAN NUMBER TWO

Increasing of the annual state dues by \$3.00 per member, making the total annual state dues \$10.00 per year. This would give sufficient funds without the necessity of using any other reserve money in the general and defense funds; however, it is rather questionable whether the \$17,700 in these funds is serving any very sufficient purpose to the medical profession of the State of Kansas.

CONCLUSION

The foregoing part of this presentation explains the views of these members who feel that if our state medical society is to be able to cope with the problems of the profession of the state, there must be a change in its type of organization and further explains why the logical change for improvement seems to be the employment of a full-time executive-secretary stationed at a central society office at Topeka. Regardless of agreement or lack of agreement about these matters, it certainly is to be hoped that all members will devote the necessary time, thought and energy to the development of a better state medical society.

Conclusions Concerning the Merits of a Doctor of Medicine as Secretary, as Compared with a Full-Time Lay Secretary.

FOREWORD

Before the House of Delegates at the 1933 Session, I presented my views concerning a secretary for the Kansas Medical Society, and I have been asked by the President of our State Medical Society, to serve as a member of a committee, the other member of which is Dr. Henry N. Tihen. Dr. Tihen is presenting the merits of the plan which contemplate a full-time lay secretary. I am charged as my part of the work with the responsibility of presenting the advantages as I see them, of a medical man as secretary.

C. C. NESSELRODE, M.D.

I regard as an ideal towards which we should work, a doctor of medicine giving his entire time to the editorship of our Journal and secretary of the state society. Such a plan would of necessity increase the dues very materially. I would not like to see the plan tried without an adequate financial set-up, for I feel without adequate financing, such a plan is sure to fail. I am equally certain that this is not the time to raise dues or attempt to launch a plan that is sure to increase very definitely the financial budget of the society.

Before discussing that further, I would like to draw your attention to the experience of some of the states, that have tried out the idea of full-time secretary. It is stated there are 13 states now employing full-time secretaries, that out of this number seven are laymen and six are doctors. One correction should be made in this statement and that is in the State of Iowa. They did have a lay secretary for a period of some four or five years. In fact, they were one of the first states to try this experiment. Two years ago, this plan was abandoned and they returned to exactly the plan we have in Kansas, namely, a member of the

profession acting as secretary, employing in his office (in our case one girl, in the case of Iowa, two girls), giving their entire time to the work in the office. Iowa, according to my conception does not at this time have a lay secretary. Their experience with lay secretaries is one that any state is very apt to repeat. The layman they employed soon felt he owned and determined the policy of the Iowa State Medical Society. He did not hesitate to tell the politicians about the legislative lobbies of Iowa, that he carried the medical profession of the state in the hollow of his hand. And, it took more than one year to get rid of him after it was apparent to the leading men in the profession that he was a detriment instead of a help. So, Iowa's experience with the merits of this plan, should stand out as an everlasting warning of the danger of same.

The State of Virginia has a lady lay secretary. Her father was a doctor and for many years was the secretary of the Virginia Medical Society and this daughter was trained in the office of her father. Shortly after his death she was elected to the position of the father who had trained her. A fortunate circumstance for Virginia.

I made a very careful study of the success of the lay secretary in the State of Indiana. This lay secretary is a man of rare good judgment and the success of the experiment in Indiana, as I see it, rests upon the fact that the lay-secretary has the good judgment to rely upon and permits his work to be directed by two physicians who are willing to give liberally of their time.

Dr. Wishard of Indianapolis, a man now past 80 years of age, who for 50 years has been interested in medical organization in that state, has remained as chairman of the Committee on Public Relations and spends a part of each day in the office of the lay secretary, directing the work of his own committee and advising the lay secretary in matters of policy.

Dr. Robert E. Bulson, who for a number of years was secretary of the Indiana Society and who recently died, likewise gave liberally of his time in directing the hands of the lay secretary.

I had an opportunity to investigate rather briefly, the workings of this plan in the State of Wisconsin. I recently read a letter from Mr. Crownhart, the present lay secretary, in which he urges that no state society should embark upon such a program without a thorough understanding that the dues must be raised; that for it to function, a larger sum of money must be expended.

I am further advised by a member of the profession of Wisconsin, whose work takes him among the physicians of all sections of the state, there is a very definite opposition growing in that state opposed to the employment of a lay secretary. He tells me this opposition at the present time is not organized and has not made itself felt, but it is his judgment that in due time, it will be organized.

I know but little of the details of the lay secretary idea, as it has worked out in other states.

It is my very definite conviction that no layman can possibly understand the problem of the medical profession as well as a member of the profession, especially if the member of the profession has (before he assumed the duty of secretary) had the usual experience of a practitioner.

I am equally convinced when it comes to dealing with legislation that the members of the legislature will give more attention and have more respect for a member of the profession than they will have for a layman, who has been employed to look after the interest of the professional men. I have had no little experience in legislative matters. The strength of my position has always depended upon the fact that I

was a member of the profession; that I was talking about a proposition about which I had first hand knowledge and in coming before the committee I was doing it at my own expense and because of the conviction that what I was doing was right. Individual members of the legislature were willing to listen, because they realized I was talking on a subject about which I knew more than they did. The volunteer lobbyist, who is working because of a conviction and for the attainment of an ideal, is a much more effective worker than the one who is merely working to earn a salary.

I was quite interested in a conversation I had with Dr. Harold M. Camp, Secretary of the Illinois State Society, who told me somewhat in detail of the annual meetings that the state secretaries hold in Chicago, each fall. He stated when the secretaries of the various state societies get together for their conference the discussion of their problems is always led by the medical secretaries. The lay-secretary is not in a position to enter into a discussion of most of the problems, because his experience and training has not accomplished an understanding of these problems. As further evidence of this very fact, you probably noted the lay secretaries of the various societies got together during the A.M.A. last June and organized a Lay Secretary Society. I am wondering whose problems they discussed. Whether they were the problems of the medical profession of the various states, or whether it was their own individual problems. I wonder what the preamble to their constitution states as the objective to be attained by such an organization. Is it a promotion of the best interests to the medical profession, or is it a promotion of the best interests of the lay secretaries?

I would urge in the employment of any secretary the personality and qualifications of the proposed candidate be first considered. But, if that personality and those qualifications are possessed by a man with a medical degree with the experience of a practitioner, he is certainly much more certain of success than are the same personality and qualifications without the practitioner's training and experience.

I would urge as the ideal, a medical man of good personality, of the diplomatic turn, an understanding of men and extensive experience. I would likewise urge the warning that is so evident in the experience of Iowa, with their lay secretary.

I favor a doctor of medicine for a secretary, for the following reasons:

1. Because I believe that he brings to his position a more intelligent and comprehensive understanding of the problems he must face.
2. That he will command more respect from the average public official and also more respect from the various medical societies that he must attend.
3. This plan is much more economical. The departure from this plan means a raise of dues, an increased budget, at a time when such an increase appears to me to be inadvisable.

—R—

Antipneumococcus Serum Containing Type II Antibodies.—The Council on Pharmacy and Chemistry reports that recently there has been brought to its attention evidence that with improved preparations and technic the experimental use of antipneumococcus serum containing type II antibodies or of preparations containing this antibody in combination with type I is justified. The Council therefore voted to consider the acceptance of these preparations, and voted to inform firms manufacturing the antipneumococcus serum of this decision. (Jour. A.M.A., December 16, 1933, p. 1968).

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

The hope of controlling tuberculosis depends largely on our ability to discover cases as early as possible, for the longer a bacillus carrier remains unaware of, or indifferent to, the danger to which he is exposing others, the greater is the number of potential new cases. The search for cases of tuberculosis demands aggressive action on the part of doctors and health workers for many persons with tuberculosis do not voluntarily seek medical advice and others tend to conceal their disease. Two studies recently made in Philadelphia bring out the value of definite case-finding projects and also some of the difficulties. Abstracts from these studies published in the American Review of Tuberculosis follow.

Examining Contacts of Tuberculosis Cases

Sir Robert Philip in 1887 first emphasized the necessity of examining household contacts of tuberculous patients for the purpose of finding early cases and putting them under care so that they may recover and not in turn infect others. Home follow-up work is costly in money and energy, but the results are considered worth the cost. How efficient is it? A health and hospital survey in Philadelphia some years ago showed that only 30 per cent of household contacts of tuberculosis patients of chest clinics were actually examined; an "average county" had examined 20 per cent, and a health demonstration city had examined 60 per cent.

ANALYSIS OF FOLLOW-UP WORK

Analysis of contact work was made of the clinic patients of Henry Phipps Institute diagnosed tuberculous for the first time for a period of 18 months. These patients are designated as the "original tuberculosis patient." The homes of all were visited. A household contact was considered to be any person living in a dwelling and eating at the same table at the date of diagnosis of the original patient.

The family records of the 182 original tuberculosis patients were reviewed one

year after the date of diagnosis and the records therefore represent the year's attempt to secure the examination of contacts. It was found that there were 647 contacts of which 308 or 48 per cent came to the clinic within the year after the date of diagnosis of the original tuberculosis patient.

About two-thirds of the original tuberculosis patients were white and one-third colored. Only 11 of the white group were of native born parentage. Families of 60 of the patients were known to one or more of the relief agencies of the city. Four-fifths were between the ages of 16 and 49. For 27 of the original tuberculosis patients there were no household contacts and for 22 only 1. Further analysis led to the conclusion that "the most complete contact examination work will be possible in districts serving large families with many children, colored families, and families with advanced tuberculosis patients with positive sputum."

REASONS FOR REFUSING EXAMINATION

The reasons why 52 per cent of the contacts did not come to the clinic were studied by interviewing the visiting nurses.

The three obstacles most frequently met in endeavors to secure contact examination are (1) that the contact wishes to be examined by a private physician or a physician in some clinic he is already attending; (2) that the contact will promise to come to clinic and accept a clinic appointment, but not actually present himself; and (3) that the contact says he feels well and sees no need for examination.

Difficult as it is contact examination is a most important field of tuberculosis work. Of the contacts examined within 12 months of the diagnosis of the first patient, 11.4 per cent were found to be tuberculous, and the diagnoses of 2.3 per cent were undetermined at the end of the 12-month period.

Tuberculosis Clinic and Contact Study, Dorothy E. Wiesner and S. Margaret Smith. Feb. 1934.

Case-Finding Work Among Children

With the best of contact examination work many cases of tuberculosis elude the

attention of the doctor and the health officer. One of the supplementary devices for finding cases is that of examining school children routinely with the tuberculin test and the *x*-ray. By this method early cases of tuberculosis are found among apparently healthy school children, and by examining contacts in their homes active cases not previously known are discovered. A study of this kind was made recently in Philadelphia to confirm previous observations in the incidence of tuberculous infection as shown by the tuberculin test and of various lesions as shown by *x*-ray examination.

Additional tuberculin tests made upon children in two schools confirm the conclusion that the incidence of tuberculous infection in Philadelphia is high at the age of 15 years. Of 704 children tested, 566 or 80.4 per cent reacted. No significant difference in the percentage of reactors attributable to sex or race was noted. The percentage of white girls who reacted was somewhat higher than that of white boys, but it differed very little from the percentage of colored girls and boys who had positive reactions.

The authors believe that the percentage of lesions based upon the number of children tested with tuberculin, rather than upon the number examined by *x*-ray when negative reactors are excluded, gives a fairly accurate conception of the incidence of tuberculous lesions in presumably healthy children.

LESIONS FOUND

The number of significant lesions (defined in the article) in elementary school children below the age of 12 was small, probably about 0.3 per cent. Significant lesions were found in 1.0 per cent of white boys 12 to 20 years of age and in 2.3 per cent of white girls. Colored children in the younger group showed significant lesions approximately five times as great as in white children. (In the older group the number of colored children examined was too small to be comparable with the number of white children.) The authors feel that preventive work is more needed in the adolescent group than among younger children.

The white children in the survey were mainly first-generation American, in large part of Jewish and Italian stock. One of the schools was situated in a district thickly populated by people in very poor circumstances. Half of the pupils were colored. The death rate from tuberculosis for a two year period, April 1, 1929, to April 1, 1931, in the area from which one of the schools draws pupils was 284.3 per 100,000 and in the area from which the other school draws pupils, 219.4.

In the summary the authors say:

"Under the conditions of our survey the tuberculin test unfortunately deters many people from giving consent to examination. When determination of the incidence of infection is not considered essential the tuberculin test may be omitted, in order to survey larger numbers of school children. Some of the children given x-ray and physical examinations will presumably be tuberculin-negative, but this waste may be compensated for by saving the cost of a general application of the tuberculin test to groups presumably in large part tuberculin-positive. School administration and health officers with the aid of parents might devise a plan by which all children could be fully examined.

"The need of prophylactic care for school-children with significant latent lesions is not generally recognized. The value of treatment in open-air classes and preventoria can be determined only by long-continued observation of large groups of children, with accurate diagnoses and adequate controls. Conditions in the schools reported here have not made possible the collection of information concerning the value of prophylactic care within the school system. Nevertheless, it is reasonable to suppose that measures of established value in arresting clinical tuberculosis will prevent the development of latent into clinical disease if adequately applied to appropriate subjects."

A Further Study of Tuberculosis in Public-School Children, H. W. Hetherington, F. M. McPhedran, H. R. M. Landis and E. L. Opie. Feb., 1934.

COUNCIL MEETING

January 8, 1934

The annual mid-winter meeting of the Council was held in Topeka at the Jayhawk Hotel on January 8, 1934.

The meeting was called to order by the President, Dr. Wm. F. Bowen, at 10:30 a.m. Others present: Doctors R. T. Nichols, L. F. Barney, E. C. Duncan, O. P. Davis, H. N. Tihen, C. C. Stillman, Alfred O'Donnell, H. O. Hardesty, I. B. Parker, C. H. Ewing, W. F. Fee, J. D. Colt, Sr., Geo. M. Gray, Earle G. Brown, and J. F. Hassig.

On motion by Dr. Gray the secretary was requested to read the minutes of the mid-winter meeting of the Council held on January 17, 1933, the Council meeting of May 4, 1933, meetings of the Executive Committee of the Council held August 8, September 29, and November 8, 1933.

Dr. O'Donnell asked that the minutes be changed to show that he was present at the mid-winter meeting. Dr. Gray made a motion that the minutes be approved as corrected.

The Seventy-sixth Annual Meeting scheduled for three days, Wednesday, Thursday, and Friday, May 9, 10, and 11, 1934, at Wichita was approved. It was also decided that the meeting of the House of Delegates on the first day of the meeting be held at 7:30 p.m. and the other meeting on the last day at 8:00 a.m.

A motion was made by Dr. O. P. Davis regularly seconded and carried that a joint meeting of the Council with county secretaries be held at a noon day luncheon on the first day of the meeting, immediately followed by the regular meeting of the Council.

A general discussion ensued concerning the physician's problems pertaining to the FERA and CWA.

The planning of the program was the next order of business and Dr. Tihen was asked to present the wishes of the Sedgwick County Medical Society. He made a request, that the local committee on arrangements be given the privilege of arranging the entire program by inviting fourteen guest speakers, none of whom will be from a greater distance than Chicago. No papers are to be given by our

own members except the President's Address and the Necrology Report. Each guest speaker is to appear on the program at least twice during the meeting and that any marked increase in the expense over previous years would be defrayed by the Sedgwick County Medical Society and at the annual meeting the Council shall determine the amount to be appropriated for said expenses by the state society.

Following the discussion Dr. Colt made a motion which was regularly seconded and carried that the plan as outlined by Dr. Tihen be accepted.

Dr. C. C. Stillman made a recommendation that the 1935 annual meeting be held at Hays or some other suitable place in central Kansas.

Dr. F. L. Rector, Field Representative of the American Society for the Control of Cancer, appeared before the meeting and made a short talk about problems confronting the medical profession on this important subject and urged that the Kansas Medical Society adopt a five year program to fight cancer. He also offered to exhibit without cost a scientific display at the Wichita meeting.

Dr. O'Donnell asked for information regarding the recent State registration law for physicians which was satisfactorily explained by Dr. Ewing.

The secretary announced that the files containing letters for the past thirty years were becoming too bulky for his office space. Dr. O'Donnell made a motion which was regularly seconded and carried that the secretary be instructed to destroy all letter files up to the last five years except those of importance.

REPORT OF THE EDITOR OF THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

To the Officers and Members of the Council of the Kansas Medical Society:

Gentlemen:

I submit herewith the report of the Journal of the Kansas Medical Society for the period of May 1, 1933, to December 31, 1933, inclusive.

The year 1933 was as hard a year on publications as 1932, if not just a little worse. It is discouraging when one realizes in the years 1928, 1929 and 1930 we

earned and were able to remit to the society a substantial sum of money and now must ask financial assistance in order to publish the official organ of the society.

Advertising receipts for 1933 were less than in 1932. Sales and subscriptions were less, but would have practically equalled former years had we been able to retain the 100 Tuberculosis Association subscribers, which amounted to \$200.00 annually. By writing each physician on the Association list we were able to retain sixteen on our mailing list. Receipts from electrotypes for 1933 were \$139.39 more. Since it was agreed that each author pay for his own illustrations this item has been a large saving for the Journal.

Our printing and stock and stationery item is \$127.57 less than in 1932. We were quoted an unusually low price on stock and by asking for a check from the society were able to purchase enough paper to run us until late fall of this year. Office equipment, drayage, telephone and miscellaneous items are \$149.46 less. We have tried to be as conservative and economical as possible in every detail. Our postage item is more, due to 3c postage, but in 1934 because of lighter weight paper used in the Journal, beginning with the November 1933 number we will be able to realize a saving on mailing our publication of approximately 75c or 80c a month.

An earnest effort has been made to improve the appearance of the Journal, but it speaks for itself. New columns and departments have been added throughout the year, such as Case Reports, Personals—News Items, and Births. We have every reason to believe original papers appearing in The Journal of the Kansas Medical Society have been of uniformly high standard, as abstracts of many of these papers have appeared in the official journal of other state medical societies.

An unusually large number of requests for back numbers of the Journal have been received this year, which has materially increased our sales. We have supplied copies as far back as 1927.

A large number of members of the Society are using our professional card space. Fourteen new positions were sold in 1933, adding \$140.00 to our annual receipts.

(Continued on Page 69)

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

It is always something of a problem to select suitable groups for committee work in any organization, but by keeping within the limits of the constitution this can be accomplished.

In selecting the personnel of the committees this year my first consideration was to make my selections for the welfare of our society.

In naming the various committees I have tried to designate men in neighboring communities, so as to give them opportunities for conferences with other members of their committee, and in order to better conserve their time. I have appointed several from Wichita, as I thought this would give them an opportunity for getting together on the different subjects which are to come up for consideration before the annual meeting in Wichita in May.

Yours Fraternally,

A handwritten signature in cursive script, reading "W. F. Bowen." The signature is written in dark ink and is positioned above the printed name of the president.

President, Kansas Medical Society

Topeka, Kansas
January 16, 1934

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

ASSOCIATE EDITORS—R. T. NICHOLS, L. F. BARNEY, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, H. N. TIHEN, C. C. STILLMAN, ALFRED O'DONNELL, H. O. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

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The Journal of the Kansas Medical Society is not responsible for statements, methods or conclusions presented in any article other than by the editorial staff.

Authors will submit copy typewritten on standard size paper and double spaced. Copy not prepared in this manner will be returned, if convenient. THE COST OF ILLUSTRATIONS WILL BE DEFRAYED BY THE AUTHOR.

EDITORIAL

MEDICAL CARE OF CWA INJURED

Mr. John G. Stutz, State Civil Works Administrator under date of January 17, 1934, notified local Civil Works Administrators in regard to medical and hospital care of Civil Works employees injured in line of duty. Instructions in regard to medical care follow:

"Please ask the officers of your County or District Medical Societies at once to enlist the societies' cooperation as follows:

"1. Ask them to share with you the responsibility of preparing a list of the local physicians authorized to provide treatment to supplement Federal medical facilities when these are not available or inadequate. This list should include physicians in the locality (whether members of the local medical society or not) who are

well qualified by training and experience to render compensation service, who are licensed to practice medicine in the state, and who desire to participate in this service under the regulations of the United States Employees' Compensation Commission. These regulations provide for fees not in excess of those charged by physicians generally to patients in the same income class as the injured person.

"2. Have them indicate on this list physicians who, by training and experience, are especially qualified to handle unusual and special types of cases.

"3. Request that they work out with you a proper plan, mutually satisfactory for distributing the compensation work among physicians on the list in as equitable a manner as possible. Any plan should provide for the immediate treatment of emergency cases, and for treatment by physicians well qualified to handle the particular type of case."

Instructions are also given in regard to selecting hospitals where CWA employees will be treated. A per diem rate of \$3.50 for all hospital cases of injured employees will be general throughout the United States, for which additional items will be furnished in addition to the room.

INJURIES OF THE BACK

Pain in the back is a frequent complaint. Pain in the back as a result of an injury while at work is considered one of the most frequent causes of idleness in industry, as a result of which large sums are lost in wages and in payment of compensation awards. Back injuries, however, are not alone the result of industrial accidents, for such injuries may occur in any community regardless of its size, and from many causes. With the increase in the number of automobile accidents, apparently the number of women suffering back injuries is increasing.

Kidner¹ states the most common causes of mistakes in the handling of back in-

1. Kidner, F. C.: Jour. of the Mich. St. Med. Soc., August, 1933.

juries falls into three main groups: (1) Errors which result from ignorance of the true anatomy, physiology and pathology of the spine; (2) inefficient and inaccurate methods of examination, and (3) improper treatment based on faulty diagnosis.

The general impression for years was that the vertebral column was an extremely strong and stable bony structure, so held together by ligaments and muscles that only the most violent of injuries could damage it. In recent years, however, further studies of the mechanism of the spine, nerves, ligaments and muscles have destroyed the old theory. It is now realized that serious damage may result from even minor injuries. A thorough knowledge of the anatomy of the back is necessary in order to thoroughly evaluate the importance of the various symptoms and signs, for injury may occur to the soft tissues as well as the bony parts. Faulty diagnosis plus incorrect methods of treatment may be responsible for many of the chronic painful backs which result in prolonged absence from work.

Back injuries produce definite symptoms. The type of injury may be differentiated only by the most careful physical examination. Injury to erector spinae muscles is characterized by pain, diffuse and dull in character and across the whole lower lumbar region; its exact localization cannot be determined, but apparently it is near the skin surface. The pain is increased by hyperextension, but is sharply localized in the muscle at the point of injury. After a period of several days rest, soreness is still present and premature return to work may result in further injury and the development of a chronic partial disability. Back sprains occur most frequently while lifting. The pain is sudden and severe in the lumbar region and the patient is able to assume

the erect position gradually. Unless the sprain is a minor one, the pain increases and the patient is forced to bed. If the patient is able to stand, due to the protective spasm, there will be a sharp list toward the affected side. Injury to the erector spinae muscles and back sprain are acute back injuries most commonly met with.

Crushing or impacted fracture of the body of the vertebra is characterized by localized pain over the point of injury and tenderness on deep pressure. Injury to the intravertebral discs occurs infrequently and may be diagnosed only by *x-ray*. Forward displacement of the fifth lumbar vertebra on the sacrum, or of the fourth upon the fifth likewise occurs infrequently. Its occurrence is thought to be due to a congenital failure of union between the normal anterior and posterior centers of ossification of the arch of the vertebra. It is discovered frequently in young people. Here again, the *x-ray* is invaluable in the diagnosis.

The type of injury which occurs frequently and is most liable to become chronic is a sprain of the sacroiliac or lumbosacral joints. Such injuries prevent stooping, lifting, standing or even walking. The causes of the pain are: (1) Thickening of the capsule and atrophy of joint cartilage, and (2) fibrosis and loss of elasticity in the muscles and ligaments which follow hemorrhage tears or repeated overstrain.

Gross lesions of the back ordinarily are not difficult to diagnose, providing proper attention is paid to the history of the injury, to the complaints of the patient, suitable *x-ray* pictures are taken, and a thorough physical examination is made. The less serious back injuries are more difficult to diagnose.

Mock² states that the history of the

case is of the greatest importance but the *x*-ray is necessary for diagnosis. Both antero-posterior and lateral views should be taken. If negative, and symptoms persist, a second set, both views, should be taken within two to four weeks and an additional set at a later date, if necessary.

The pain in back injuries may result from one of many causes. A careful examination, correct diagnosis and treatment will result in complete recovery in almost 100 per cent of cases.

—————R—————

EDITORIAL COMMENT

Committee appointments for the year 1934 will be found on page XVI.

The fourth International Congress on Rheumatism will be held in Moscow, May 3-6, 1934.

Two deaths were reported in December the result of amebiasis, and the infection contracted outside the state.

The Council at the mid-winter meeting authorized mailing the Journal without envelopes until the annual meeting.

Dr. C. H. Ewing reports 2,490 physicians have registered in compliance with the annual registration law enacted by the 1933 legislature. Of this number, 565 live outside the State of Kansas.

The license of Dr. Blyford B. Jackson, of Lawrence, which was revoked by the Board of Medical Registration and Examination in 1920, was reinstated at the meeting on December 12-13, 1933.

New advertisers in this month's Journal include: Bordens Evaporated Milk, Quinton-Duffens Optical Company, Topeka; Hotel Jayhawk, Topeka, and the Wall-Diffenderfer Mortuary, Topeka.

A recent decision of the California Court of Appeals is to the effect that a surgeon who is employed to conduct an operation in a hospital is not liable for the

negligent acts of an anesthetist employed by the hospital.

A cordial invitation is extended to the medical profession of Kansas to attend the Oklahoma-Texas-Arkansas-Missouri-Kansas Sectional Meeting of the American College of Surgeons at Oklahoma City, on February 22 and 23, 1934.

Eighteen physicians were licensed at the December 1933 meeting of the Board of Medical Registration and Examination; ten by examination, and eight by reciprocity. Names of the newly licensed physicians will be found on page 68.

The Southeastern Surgical Congress will hold its fifth annual assembly in Nashville, Tennessee, March 5, 6 and 7, 1934. The Andrew Jackson Hotel will be hotel headquarters and the lectures and exhibits will be in the War Memorial Building.

Dr. Herman N. Bundesen, President of the Chicago Board of Health, reports that as of February 2, 1934, 774 cases of amebic dysentery have been reported from 213 cities with 42 deaths, their probable origin being traced to the Chicago outbreak. There have been 1130 carriers discovered.

Paul Starr, M.D., Assistant Professor of Medicine, Northwestern University Medical School, will be the guest speaker at the meeting of the Shawnee County Medical Society at the Hotel Jayhawk, March 5. His subject will be: "The Control of Pernicious Anemia and its Complications."

The Surgeon General of the Army in his annual report for the fiscal year ending June 30, 1933, states that in 1932 for the first time on record, deaths among officers and enlisted men from accidents exceeded the deaths from diseases. Official army records show in the past 100 years, the sick rate has been reduced 76 per cent and the death rate 88 per cent reduced.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

Use of Oxalated Blood

My experience with the use of oxalated blood is limited; yet, I have had enough experience with it to warrant a consideration of its routine use in the laboratory. Its practical application will be of more benefit in the hospital than in the commercial clinical laboratory; thus the discussion will more closely follow the line of hospital analysis.

It is my experience that the findings in one test will suggest the possibility of help from the results of another test. It is not possible to definitely state that a certain amount and only a certain amount of laboratory work will be done on the given patient. This being true, I find that one collection of blood will save much time as well as inconvenience to the patient. Most hospitals have a routine; in our hospitals, on medical cases it includes: A complete blood count, complete urinalysis, Wassermann, blood culture, sedimentation rate; for special cases of a certain provisional diagnosis, other tests are done. On still other cases, the laboratory work is in proportion, without going into all the details required in each case. To do this type of work it is absolutely necessary the physician make a provisional diagnosis when the patient enters the hospital, a thing, which in my experience is merely a matter of education and cooperation. With the provisional diagnosis given it is then a task for the director of the laboratory to do all the tests that will aid in making the diagnosis and prognosis. This plan, further, is only applicable to hospitals that have a flat laboratory fee; otherwise the charges would be entirely too much.

Even the most meager routine will call for a blood count and Wassermann, if enough blood has been collected; other tests may be done on this same blood, later in the day. One secret to proper results is in having a definite relation between the amount of blood and the amount of oxalate used, which is 2 mgm. of potassium oxalate

per one cc. of blood. The technic of collection and shaking need not be stressed, except to again point out the necessity of thorough shaking in a rotary motion and the advisability of using a dry syringe.

This blood is then satisfactory to use for the following tests: Complete blood count, Wassermann, Kahn, sedimentation test, blood culture, volume index, cell fragility, icterus index, Van den Bergh, reticulocyte count, platelet count and special chemical tests, such as carbon monoxide poison. Most of the tests can be run several hours following collection of the blood, but the reticulocyte staining, slides for differential count and the platelet count should be made within a few minutes. We have left the oxalated blood on a shelf in the laboratory for 30 hours and found the total red and white count does not vary to any considerable extent. In using the oxalated blood for the Wassermann or Kahn, we add a small amount of calcium chloride which precipitates the potassium oxalate out as potassium chloride which is then removed by merely centrifuging.

In addition to the use of oxalated blood in extending the scope of tests, beyond the first one or two desired, other factors that enter into its favor are:

1. Less annoyance to the patient, only one venous puncture.
2. If errors are encountered, reexaminations can be made without loss of time, due to collection of more blood.
3. Greater accuracy in many tests, due to larger amounts of blood (compare with squeezing of finger or ear for blood count). Duplicate examinations can be made, if desired, by separate workers.

Patients do not object to the one puncture, but often will raise a serious objection to two or three punctures in the course of one day.

The methods of use are just the same as for other tests, with above noted exception and with a little practice, a technician or physician can use this method with satisfactory results.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

ABSORPTION IN INTESTINAL OBSTRUCTION

On a series of experiments in rats these workers attempt to ascertain the cause of death in intestinal obstruction, particularly as to whether there is a formation and absorption of a toxin in the loop of the bowel above the obstruction and whether there is an altered rate below the obstruction. In a series of rats with obstruction and a series without they carry on some rather elaborate experiments which suggest that there is no increase in the rate of selectivity of absorption above the obstruction which is strong evidence that increased absorption above the obstruction cannot be the cause of death. Their experiments also tend to rule out the probability of increased absorption below the obstruction. Because these are entirely negative facts the authors make a supposition that death does occur in intestinal obstruction due to failure of neutralization to take place between the upper and lower intestinal contents. They regard this not as a definite toxin but rather a physiochemical reaction that ordinarily takes place when the contents of the upper and lower parts of the intestines are permitted to intermix.

Absorption in Intestinal Obstruction. Best, R. Russell; Newton, Lyle A.; and Meidinger, Roy. *Archives of Surgery*. 27:1081-1086. December 1933.

NEW CONTRAST MEDIUM FOR USE IN UTEROSALPINGOGRAPHY

A study of the literature for the last few years indicates that the iodinated oil usually used to display the uterus and the uterine tubes has caused a certain number of serious complications, particularly oral peritonitis, excessive retention of the oil, inflammatory changes, oil embolism and escape of the oil into the uteroovarian venous system. As a result these workers have been looking for some new opaque medium which will serve their purpose and have tried out a series of 18 patients with a pyridine derivative with 51.5 per cent iodine in close organic combination, called neo-iopax (uro-selectan-B). They recommend that a solution of 20 per cent

strength is fairly satisfactory but a 33 per cent is more satisfactory and a 50 per cent solution is best. They have had no complications whatever and all the opaque mixture is absorbed within 90 minutes in the majority of cases. In one case there was a temperature reaction of 102 degrees but this may have been due to an intravenous salvarsan injection given the same morning. Occasionally there is slight pain but this has disappeared after removal of the cannula. None of the patients were incapacitated.

A New Contrast Medium for Use in Uterosalpingography. Neustaedter, Theodore; Ehrlich, David E.; Du Boise, John Coert; Blalock, George R. *Radiology* 21:568-572. December, 1933.

TREATMENT OF RESPIRATORY FAILURE IN POLIOMYELITIS

This study is reported from the Department of Pediatrics and Pathology of the Yale University School of Medicine. Twenty-four patients (13 children and 11 adults) were admitted to the New Haven Hospital during the epidemic of poliomyelitis in 1931; for the sake of study they were divided into two groups, recovered and fatal cases. An effort was made to determine the location and extent of respiratory embarrassment, to apportion the difficulty between the diaphragm, the intercostal muscles the bulbar nerves, and the respiratory center. Damage to the bulbar nerves supplying the larynx and pharynx was indicated by the nasal quality of the voice, by choking and by regurgitation of fluids through the nose. Direct examination of the throat revealed the condition of the uvula. Extreme irregularity of breathing was evidence of damage to the respiratory center.

Of the seven cases that recovered (6 children and 1 adult) the weakness was mostly in the intercostal muscles of the diaphragm; only two showed any bulbar involvement. The Drinker respirator was of value in five of these seven cases; the machine gave almost immediate relief from dyspnea and cyanosis. Thirty-five days was the longest time any patient required mechanical assistance in breathing; four patients had complete respiratory power in eighteen to twenty months after the onset of their illnesses.

Bulbar involvement was the common feature of the fatal cases; the throat and

respiratory centers were so paralyzed and obstructed as to cause death. The value of the respirator in these cases was seriously questioned; it subdued coughing and increased the danger of aspiration pneumonia. Post-mortem examinations showed lesions present in the spinal cord, medulla, pons and mid-brain. Dark red spots of firm, non-crepitant lung tissue were found throughout the lungs in all but one case; there was also a thinning of the alveolar walls and dilatation of the alveoli, and in seven cases, definite bronchitis. Post-mortem bacteriology showed streptococcus forms in the throat, bronchi and lungs in every case. The authors conclude that in cases where there is no bulbar involvement the respirator is of great value but is contraindicated in cases with bulbar involvement. The treatment of severe bulbar cases was as follows: Hyperextension position to prevent aspiration, elevation of foot of bed, suction and postural drainage, parenteral fluid nourishment.

Treatment of Respiratory Failure in Poliomyelitis. Harper, Paul and Tennant, Robert. The Yale Journal of Biology and Medicine. 6:31-42. October 1933.

TREATMENT OF SYDENHAM'S CHOREA

The author reports his treatment of Sydenham's Chorea by induced pyrexia, using a triple typhoid vaccine containing typhoid and paratyphoid A and B. He gives a small dose from .5 cc. Each day increasing the dose as is necessary up to 1 cc. or even 2 cc. to produce a fever reaction each day until the choreic movements have disappeared. Most patients have shown a marked improvement after two or three treatments and they are usually free from the choreic movements in a week. Following the treatment the patient is kept in bed for a few days and then allowed up for a week before discharge from the hospital. Those patients with a rheumatic-cardiac murmur do not necessarily have a contraindication to the treatment unless it is thought that the circulatory system cannot support the effects of the high fever.

A Treatment of Sydenham's Chorea. Bateman, Donald. The British Medical Journal, 3779:1003-1004 (June 10) 1933. From the International Medical Digest for October 1933.

List of Physicians Licensed by the Kansas State Board of Medical Registration and Examination, December 12-13, 1933

BY EXAMINATION			
NAME	SCHOOL	DATE OF GRADUATION	ADDRESS
Cundiff, Edwin Thomas.....	Howard University	1933.....	Kansas City, Mo.
Davis, Jachin Boaz.....	University of Kansas	1933.....	Kansas City, Kan.
Foster, Jr., Alfred Reuben.....	Meharry Medical College	1933.....	Kansas City, Mo.
Jones, Joseph Junius.....	Meharry Medical College	1933.....	Tuskegee, Ala.
Knox, Lawrence Mountjoy.....	Washington University	1924.....	Wichita, Kan.
May, Percy Conrad.....	Howard University	1933.....	Kansas City, Mo.
Stark, Walter Alfred.....	University of Illinois	1933.....	Florence, Kan.
Strunk, John Peter.....	St. Louis Medical College	1933.....	Wichita, Kan.
Utz, Jr., David Willis.....	Howard University	1933.....	Kansas City, Mo.
West, Jr., Charles Ignatius.....	Howard University	1933.....	Kansas City, Mo.

BY RECIPROCITY			
NAME	SCHOOL	DATE OF GRADUATION	ADDRESS
Bell, Jess Vardeman.....	Northwestern University	1920.....	Kansas City, Mo.
Danielson, Arthur David.....	Oklahoma Medical College	1932.....	Concordia, Kan.
Fellows, Ralph Manos.....	N. Y. University and Bellevue Med. College	1922.....	Topeka, Kan.
Fisher, Erle Franklin.....	Bennett Med. College	1912.....	Chicago, Ill.
Howell, J. Allen.....	Baylor Medical College	1931.....	Wellington, Kan.
Insley, Herbert Wellington.....	University Medical College	1913.....	Arma, Kan.
Low, Robert Grant.....	University of Kansas	1932.....	Coffeyville, Kan.
Ward, Delbert Audray.....	University of Oklahoma	1931.....	Arkansas City, Kan.

Council Meeting

(Continued from Page 61)

It might be interesting for you to know every issue of the Journal has been mailed on time for the past two years.

Collections for the month of December exceeded any month in 1933. If this is an indication of what the coming year has in store for us we should manage to publish the Journal without a great deal of added expense to the society.

Financial Statement of the Journal of the Kansas Medical Society

Receipts and disbursements by the Editor from May 1, 1933, to January 1, 1934:

RECEIPTS

Journal Advertising	\$2,520.80
Sales and subscriptions	40.00
Kansas Medical Society	2,300.00
Electrotypes	84.11
Reprints and other sources	13.70
	<hr/>
Balance May 1, 1933	\$4,958.61
	573.64
	<hr/>
	\$5,532.25
Bills receivable	466.44
	<hr/>
	\$5,998.69

EXPENDITURES

Journal printing	\$1,462.67
Stock and stationery	524.20
Salaries and wages	2,475.00
Postage	134.25
Electrotypes	73.87
Office rent	187.50
Telephone	56.61
Drayage	3.50
Delivering Journals in Topeka	9.69
Insurance	4.94
Taxes	3.70
Reprints	12.50
Office supplies and miscellaneous	20.75
	<hr/>
	\$4,969.18
Bills payable	176.44
Salaries due	785.00
	<hr/>
	\$5,930.62
Balance as of January 1, 1934	68.07
	<hr/>
	\$5,998.69

Financial Statement of the Bureau of Public Relations of the Kansas Medical Society

Receipts and disbursements from May 1, 1933, to January 1, 1934:

RECEIPTS

Sales and subscriptions	\$ 75.00
Kansas Medical Society	255.79
Advertising	2.00
	<hr/>
	\$332.79
Accounts receivable	62.07
	<hr/>
	\$394.86

EXPENDITURES

Salaries	\$ 50.00
Drayage	2.00
	<hr/>
	\$ 52.00
Deficit 5-1-33	342.86
	<hr/>
	\$394.86

Respectfully submitted,
EARLE G. BROWN, M.D., Editor.

A motion was made by Dr. Tihen that the reports be accepted which was regularly seconded and carried.

Dr. Brown suggested a savings in the cost of the Journal by using a cheaper paper and reducing the number of pages. He also recommended discontinuing the use of mailing envelopes.

A motion was made by Dr. Davis, regularly seconded and carried, that the Journal be continued the same size and with the same quality of paper and that it be mailed without envelopes until the next annual meeting.

A motion was made by Dr. Colt that the Secretary cast the unanimous vote of the Council for Dr. Earle G. Brown, as editor of the Journal for the ensuing year, which was regularly seconded and carried. The Secretary then cast the unanimous vote of the Council for Dr. Earle G. Brown as Editor for the ensuing year. Dr. Brown volunteered a reduction of \$300.00 in his salary as editor but the Council declined to consider it.

The Secretary presented his expense account since May 4, 1933.

SUMMARY

Stenographer's salary	\$600.00
Stamps	75.00
Long distance calls	12.08
Miscellaneous	30.09
	<hr/>
	\$717.17

A motion was made by Dr. Ewing that the amount be allowed, regularly seconded and carried.

Dr. Davis made a motion which was regularly seconded and unanimously carried that a vote of thanks be extended to our President, Dr. Wm. F. Bowen, for his generous hospitality as host during the noon recess of the meeting.

Adjourned.

J. F. HASSIG, M.D., Secretary.

PERSONALS—NEWS ITEMS

Kirwin: Dr. H. H. Johnson has removed to Kensington.

Lenora: Dr. F. E. Gaither has been appointed as Norton County Health Officer.

Luray: Dr. H. S. Dreher has been named as Russell County Health Officer.

Hill City: Dr. V. A. Vesper has been appointed health officer of Graham County for the year 1934.

Pratt: Dr. W. F. Bernstorff attended the meeting of the Golden Belt Medical Society held in Topeka, January 4.

Clay Center: Doctors B. I. Krehbiel and Ernest Decker, of Topeka, were professional visitors in Clay Center, January 15.

Kansas City: Dr. J. W. First is now at home, greatly improved. Dr. D. E. Clopper is reported improving at Providence Hospital.

Topeka: Dr. David T. Nicoll will sail from New York on February 16, for a seven weeks' cruise in the West Indies and South America.

Clay Center: Dr. J. Leonard Dixon was at the Mayo Clinic in Rochester the week of January 14. He was accompanied by Doctors Spelman of Halstead, and McVay, of Linn.

Kansas City: Dr. C. Omer West attended the meeting of the Mississippi Valley Dermatological Society January 20 and 21 at the Union Lake Club in Chicago. Clinics were held at Rush Medical School.

Topeka: Dr. M. E. Pusitz presented an original paper before the annual meeting of the American Academy of Orthopedic Surgeons, at Chicago, January 7-10, 1934, on the subject "The Kinetics of the Foot in Normal and Paralytic Motion."

Topeka: Dr. and Mrs. W. F. Bowen, left on January 24, for Sweet Briar, Virginia, where their daughter Jeannette will enter Sweet Briar College. Before returning they will spend a few days in Florida, where Dr. Bowen will try his luck at ocean fishing.

THE PHYSICIAN'S LIBRARY

MYSTERY, MAGIC AND MEDICINE: by Howard W. Haggard, M.D., Associate Professor of Applied Physiology, Yale University; author of *Devils, Drugs, and Doctors*; *The Lame, the Halt and the Blind*, and *The Science of Health and Disease*. Doubleday, Doran & Company, Inc., Garden City, New York. 192 pages, price \$1.00.

An interesting volume from the pen of an interesting writer, and deals with the rise of medicine from superstition to science. It is difficult for the average individual to realize the great advance in medicine unless he reads this swift and stirring account of the discoveries of the benefactors of mankind. Little gems of biography will be found scattered throughout the book, and a full glossary makes words and names clear.—E.G.B.

THE PRACTICAL MEDICINE SERIES—GENERAL MEDICINE: Edited by George F. Dick, M.D., Lawrason Brown, M.D., George R. Minot, M.D., S.D., William B. Castle, M. D., William D. Stroud, M.D., and George B. Eusterman, M.D., Series 1933, 808 pages. The Year Book Publishers, Inc., Chicago. Price \$3.00.

The publishers have again maintained their high standard of previous years, in publishing a volume that is of interest to every practitioner of medicine. Of especial interest is the work on the etiology of arthritis which emphasizes the importance of the hemolytic group of streptococci.—E.G.B.

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS: By George William Norris, A.B., M.D., formerly professor of Clinical Medicine in the University of Pennsylvania; chief of medical service "A", Pennsylvania Hospital; and Henry R. M. Landis, A.B., M.D., Sc.D., Professor of clinical medicine in the University of Pennsylvania; Director of clinical and sociological departments of the Henry Phipps Institute of the University of Pennsylvania. With a chapter on the Transmission of Sounds Through the Chest by Charles M. Montgomery, M.D., formerly physician to the Phipps Institute, Philadelphia; and a chapter on the Electrocardiograph in Heart Disease by Edward B. Krumbhaar, Ph.D., M.D., professor of pathology, University of Pennsylvania School of Medicine. Fifth edition, revised. 997 pages with 478 illustrations. Philadelphia and London: W. B. Saunders Company, 1933. Cloth, \$10.00 net.

This is quite a large detailed, diagnostic study of the chest and all its contents taking up the history, physical findings, pathology and laboratory findings of any abnormality that can be found in the chest including the circulatory system, especially the heart. This book would make a very fine reference for the physician's

library, or a good text book for the students in diseases of the chest. The illustrations are good; the reading matter is easily comprehended.—C.K.S.

THE SURGICAL CLINICS OF NORTH AMERICA: Issued serially one number every other month. Volume 13, No. 6. Index Number. (Pacific Coast Surgical Association Number—December 1933) 284 pages with 97 illustrations. Per clinic year (February 1933 to December 1933). Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

The clinics in this volume have been contributed by fellows of the Pacific Coast Surgical Association. This association is composed of surgeons living in California, Oregon, Washington, British Columbia and Hawaii. There is a very large variety of clinical material presented with many unusual and rare cases. The case reports are on the whole brief, the detailed treatments clearly presented and the entire volume a credit to our Pacific Coast Surgical Association. All surgeons will be interested in reading this number.—M.B.M.

PRACTICAL MEDICINE SERIES, 1933—THE EYE: E. V. L. Brown, M.D., professor of ophthalmology, University of Chicago; attending ophthalmologist, St. Luke's Hospital, Chicago, and Louis Bothman, M.D., associate professor of ophthalmology, University of Chicago. **THE EAR, NOSE AND THROAT,** George E. Shambaugh, M.D., professor of otology, rhinology and laryngology, Rush Medical College of the University of Chicago; otolaryngologist of the Presbyterian Hospital and Elmer W. Hagens, M.D., instructor in otology, rhinology and laryngology, and Friedberg fellow in otolaryngology, Rush Medical College of the University of Chicago, with collaboration of George E. Shambaugh, Jr., M.D., clinical assistant in otolaryngology, Rush Medical College of the University of Chicago; resident in otolaryngology, Presbyterian Hospital. The Year Book Publishers, Inc., Chicago. Price \$2.50.

The Eye, Ear, Nose and Throat book of the Practical Medicine Series for 1933 again keeps up its usual standard of complete concise reviews of all the literature in these lines for the past year. It is well indexed and gives complete references to the original articles. For the busy practitioner it is an invaluable book for keeping abreast the times.—G.H.A.

THE MEDICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 17, Number 2. (Chicago Number—September 1933). Octavo of 233 pages with 36 illustrations. Per clinic year, July 1933 to May 1934. Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

In this volume, the Chicago number, the first symposium on blood dyscrasias is well worth the purchase of the volume. Dr.

Arthur Elliott and Dr. Edward Jenkinson discuss the leukemic states with a response to *x*-ray treatment and conclude that, although the outlook is always the same and *x*-ray will not postpone the fatal ending, it will promote the efficiency of the patient. Dr. Frederick Tice and Dr. Richard Haffe have a very good article on agranulocytosis with a differentiation and case history of each from sepsis lenta with aplastic anemic blood picture and from acute stem cell leukemia.

Dr. Carroll Birch gives a very good discussion with the presentation of three cases of hemophilia. He claims that preparations of whole ovary have given the most prolonged benefit. Dr. LeRoy Sloan presents three cases of polycythemia; discusses the cases thoroughly, the different types and the treatment. Dr. Evans Pernokis gives a very fine discussion with case history of aplastic anemia. This section of the book is well written; the case histories are in detail with good illustrations.

Dr. James Carr has an article on influenza, gives the history of the disease, a presentation of eight different cases with complications and a very good discussion on treatment. Dr. Lewis Pollock has a very fine discussion of the diagnosis of early poliomyelitis. Dr. Edward Oliver's article on tuberculosis of the skin with his illustrations is well worth one's time to read. Dr. Allan Kenyon discusses Addison's disease and reports a case treated with extract of the suprarenal cortex.—C.K.S.

TREATMENT OF THE COMMONER DISEASES: by Lewellys F. Barker, M.D., Professor Emeritus of Medicine, Johns Hopkins University; Visiting Physician, Johns Hopkins Hospital, Baltimore, Md. J. B. Lippincott Company, Philadelphia; 299 pages. Price \$3.00.

This volume is based upon ten lectures delivered by invitation, September 1933, in the annual course of post-graduate lectures to the Academy of Medicine of Lima and Allen counties, Ohio. It deals with the management of some of the internal disorders that are not infrequently met with by the physician who is in general practice. The author does not attempt to fully discuss each subject, but stresses the important developments in diagnosis of dis-

eases which he has classed under general headings. An intensely interesting volume for all, but which the general practitioner will find of great value.—E.G.B.

MENTAL HYGIENE IN THE COMMUNITY: by Clara Bassett, Consultant in Psychiatric Social Work, Division on Community Clinics, The National Committee for Mental Hygiene, Inc., The MacMillan Company, New York, 386 pages. Price \$3.50.

A comprehensive picture of the relation of mental hygiene to some of the urgent problems of community life. Defines mental hygiene; tells why it is of great importance and value in any consideration of how to achieve a healthier and happier community life; how individuals and committees may study their local situation to determine the adequacy of psychiatric services, and the extent to which the mental hygiene approach is being utilized in the study and treatment of social problems, and many other phases of the subject. This volume should be of interest to physicians, educators, ministers, attorneys, nurses, social workers, and club women as well as members of parent-teachers associations.—E.G.B.

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BIRTHS

Cambridge: Dr. and Mrs. W. J. Green; a son, Ronald Lee, on November 10, 1933.

Clay Center: Dr. and Mrs. William H. Algie, December 8, 1933; a daughter, Ann.

Clay Center: Dr. and Mrs. Robert W. Diver, December 31, 1933; a daughter, Lue Edna.

Haven: Dr. and Mrs. Chester W. Haines, November 30, 1933; a son.

Kansas City: Dr. and Mrs. H. E. Carlson, December 7, 1933; a daughter, Kathryn Louise.

Paola: Dr. and Mrs. P. A. Pettitt, October 17, 1933; a son, Phil Andru.

Salina: Dr. and Mrs. Kenneth L. Druet, November 20, 1933; a daughter, Dea.

Topeka: Dr. and Mrs. H. L. Kirkpatrick, December 27, 1933; a son, Bruce McIntyre.

DEATH NOTICES

HOBBS, P. ALBERT, Easton, aged 76, died December 7, 1933, at St. Margaret's Hospital in Kansas City of chronic myocarditis. He graduated from Louisville Medical College, Louisville, Kentucky, in 1890. He was not a member of the Society.

MITCHELL, JOHN CHARLES, Waldo, aged 59, died December 30, 1933, of coronary occlusion. He graduated from Ensworth Medical College of St. Joseph, Missouri, in 1897. He was not a member of the Society.

PALMER, EDWARD M., Wichita, aged 59, died December 31, 1933, of angina pectoris, coronary thrombosis. He graduated from University Medical College, Kansas City, Missouri, in 1904. He was a member of the Society.

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COUNTY SOCIETY NEWS

BROWN COUNTY MEDICAL SOCIETY

The meeting of the Brown County Medical Society was held in the office of the probate judge in the court house, Hiawatha, January 19, 1934. Meeting called to order by President P. E. Conrad and minutes of the last meeting read and approved.

Letter was read from Dr. C. H. Ewing, Secretary of the Board of Medical Registration and Examination relative to physicians practicing in Brown County who had not registered with the board.

The Advisory Committee of the society for CWA contact made the following report:

"Mr. President: The Advisory Committee consisting of Doctors W. G. Emery, chairman, R. T. Nichols and Paul Conrad met promptly with all members present. A long evening was spent in studying the long list of instructions, advice and dicta issued by the FERA to the medical profession in relation to medical service to be rendered to workers on federal relief projects, and their families.

"As a result of this study and exchange

of views, Dr. Emery was appointed as a sub-committee to draft a tentative code, required by the administration as a basis of medical cooperation with the local relief administration. The sub-committee after further study of the administration's instructions and after observance of the actual workings of the administration's program, concluded that, until more information was obtained, it was impossible to draft a code consistent with published instructions. For example, the administration promised, in effect, that doctors would be compensated for their reduced fees to workers by the 'certainty, promptness and simplicity' of collecting their accounts against the workers.

"The sub-committee was told by both the chairman of the local relief administration and the district supervisor or inspector that no fund existed for paying doctor's fees; that there was no authority given to withhold any money from a worker's check; that no worker would be discharged because of non-payment of medical bills; that no compulsion could be used to enforce such payments.

"A letter of inquiry to the state administrator remains unanswered after more than two weeks.

"As a result of this report of its sub-committee the advisory committee informs the society that in its opinion, the administration has contemptuously ignored their promises to the medical profession, and has obtained by false representations, the fee schedule for workers, as adopted by the society and accepted by the state administration.

"The committee advises the members of the society that they must collect their bills against workers as best they can without aid from the administration that, since the federal government cannot be garnished, the chance for legal collection of

such accounts is less than that of accounts against men privately employed.

"The committee further recommends that some act of protest against this unfairness be made by the society."

ADVISORY COMMITTEE, W. G. Emery, Ch.

Dr. Emery moved that any and all members on federal relief projects who fail to pay their bills for medical service be listed as dead beats and further medical or surgical services be refused them until they have made satisfactory settlement with the doctor whom they owe. Motion prevailed.

Moved the secretary notify the State CWA Administrator, through the local of-

fice, that owing to the fact that the administrators of the F E R A have failed to make provision for the payment of the doctors for services rendered CWA workers, the Brown County Medical Society members will not care for

the CWA workers, on the reduced fee schedule, until such provision for pay is made.

Program: Dr. E. R. Hays, Falls City, Nebraska, gave a very interesting talk on: "Economic Changes in the Practice of Medicine." Mr. E. S. Parsons, manager of the Pioneer Service Company, of Hiawatha, gave an interesting talk on the subject of "The Doctor and Collections."

Applications for membership in the Brown County Medical Society were received from the following: Doctors James D. Bowen, Whiting; Ray Meidinger, Highland; J. R. Heryford, Fairview, and R. J. Portman, Hiawatha. All four applications referred to Board of Censors for report and final action at next meeting.

Eighteen members and guests were present.

Complete program for 1934 was distributed by President Conrad.

R. T. NICHOLS, M.D., Secretary.

PATRONIZE JOURNAL ADVERTISERS

RESOLVED by the Council of the Kansas Medical Society that the members of our society be urged to buy medicinals, instruments and other supplies from advertisers in our Journal in preference to similar articles sold by those who do not advertise.

The above resolution was adopted by unanimous vote at the mid-winter meeting of the Council, January 17, 1933.

BUTLER-GREENWOOD COUNTY MEDICAL SOCIETY

The Butler-Greenwood County Medical Society met at the Hotel Lyndon in Eureka, January 12, 1934. This meeting was combined with the Walnut Valley Dental Society and with druggists and pharmacists of the counties. An excellent paper by Dr. Northcutt, D.D.S., of Ponca City, Oklahoma, was heard: "The Interrelationship of Dentistry and Medicine."

A "Professional Council of the Promotion of Public Health" was inaugurated. This organization is an attempt to associate medicine, dentistry and pharmacy in a combined council for the furtherance of problems of common benefit to the three allied professions, and to the people generally. The next meeting February 9, Masonic building, El Dorado, will be a similar combined meeting for the purpose of completing the organization.

Visiting dentists: Doctors Hamilton, Farrell, Schuman, McCall and Kelly, El Dorado; Seevely, Severy; Roy Cheney, Milton Cheney, Slade and Moore, Eureka; Reed, Howard; Benton, Wichita; Westcott, Leon, president; Alley, Augusta, and Lamborn, Burns.

Visiting druggists: W. H. Mullinax, Mac Childs, C. M. McCaughan and Harry J. Overholser, El Dorado; W. E. Allen, J. D. Clark and Ralph Eiler, Eureka; Wm. Henderson, Severy, and J. B. Seed, Leon.

Visiting physicians included: Doctors R. C. Harner and F. L. Depew, Howard; R. E. Regier, Whitewater; S. F. McDonald, Severy, and B. Johnson, Eureka. Members of the society present included: Doctors Harry Lutz, president, Augusta; Fred and Floyd Dillenbeck, Dinsmore, Earp, Fowler, Hall, Johnson, Kassebaum, Metcalf, Murray and Perkins, El Dorado; Cabeen, Leon; C. D. Baird, Moore and Janes, Eureka.

WM. E. JANES, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The regular meeting of the Clay County Medical Society was held December 13, 1933, at the Clay Center Municipal Hospital; Dr. Robert Algie, president, presiding. Minutes of the last regular meeting were read and approved.

Dr. F. R. Croson, chairman of the FERA Committee reported that a revision of the fee schedule as adopted at a former meeting must be revised to conform to the requirements of the administrator's instructions before it could be accepted and approved. He asked for instructions as to the desires of the members. It was moved by Dr. C. C. Stillman and seconded by Dr. O. U. Need of Oak Hill, that the committee be retained and the schedule be revised to conform to the requirements of the state administrator at Topeka. The motion carried.

By acclamation, the committee was given authority to present the revised plan and schedule to the state director of the FERA without further action on the part of the society.

The annual report of the secretary and treasurer for the year 1933 was read, approved and placed on file.

Officers elected for 1934 include: F. R. Croson, president; Robt. Algie, vice president; E. N. Martin, secretary-treasurer, and W. R. Morton, of Green, member of the Board of Censors (reelected). Robert Algie automatically became the delegate to the state meeting, with power to select his own alternate.

Dr. E. N. Martin moved that the combined dues for the state and county be ten dollars for the ensuing year. The motion was seconded by Dr. Croson and carried.

Following the business session Dr. Fred McEwen, of Wichita, gave an interesting illustrated lecture on the "Irregular Heart." An informal discussion by members of the society and guests followed.

Dr. R. J. Morton moved and Dr. Martin seconded a motion to make Dr. McEwen an honorary member of the society; motion carried.

Dr. Croson, president for 1934, presented an outline for programs for the coming year. The plan includes two joint meetings with the Washington County Medical Society. The Program Committee of the Clay County Society composed of Doctors E. C. Morgan, Robert Algie and J. L. Dixon, was authorized to confer with the Washington County Society as to guest speakers and joint meetings.

Doctors L. S. Nelson, of Salina, and

H. N. Tihen, of Wichita, were guests of the society.

The regular meeting of the Clay County Medical Society was held in the class room of the nurses' home at the Clay Center Municipal Hospital on the evening of January 10, 1934.

The minutes of the preceding meeting were read and one correction offered. The term of Dr. G. W. Bale had expired as censor rather than Dr. Warren Morton as was reported at the last meeting. It was moved by Dr. C. C. Stillman and seconded by Dr. Warren Morton that the secretary be instructed to cast the unanimous ballot of the society for Dr. Bale to succeed himself. The motion carried.

Dr. F. R. Croson presented a bill for expenses connected with the FERA. It was moved by Dr. Robert Algie and seconded by Dr. C. C. Stillman that the bill be allowed and an order drawn on the treasury without reference to the finance committee.

Dr. F. R. Croson reported as chairman for the local professional advisory com-

mittee of the FERA that the plan of the county society had been drawn up and signed by all the members and that he had personally presented it to Mr. F. H. Marvin, of Topeka, who assured him that he thought the plan would go through without any alterations and he sent it on to Washington for final approval. To date nothing has been heard from there about it.

Dr. E. C. Morgan reported on the activities of the program committee, stating that they were on the job and assured the society that they would bend every effort to see that the programs were carried out as planned.

This completed the business part of the meeting and the society proceeded to the scientific part. Dr. Wm. H. Algie gave a paper on "Tularemia," and Dr. Warren Morton gave a paper on "Pain Simulating Angina Pectoris." Both papers were comprehensive and excellent presentations and were enjoyed and appreciated by the entire membership. The papers excited a lot of discussion.

E. N. MARTIN, M.D., Secretary.



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HARVEY COUNTY MEDICAL SOCIETY

The Harvey County Medical Society met in regular session on January 8, 1934. Dinner, 6:30 at the Harvey House; business session and program, 7:30 at the same place.

It was decided if the Marion and McPherson County societies were also interested, we would favor having again one tri-county meeting in each county during 1934, as it was done in 1933.

Dr. A. S. Hawkey, Newton, read a paper on "Placenta Praevia" with a report of four cases in which conservative treatment with bags had been used successfully. It was generally agreed by the writer of the paper as well as the majority of those discussing the paper that cesarean section is not quite as popular in the treatment of this condition as it was 10 years ago.

Dr. J. A. Wheeler, Newton, read a paper on "Impending New Drug Legislation," referring to the Copeland Bill. A lively discussion followed, after which it was moved and carried that the secretary send a telegram to our representative and two senators urging them to support this bill.

A. G. ISAAC, M.D., Secretary-Treas.

MITCHELL COUNTY MEDICAL SOCIETY

On January 5, the Mitchell County Medical Society held a joint meeting at Beloit, with representatives from Osborne, Cloud, Jewell, Republic, Trego and Smith counties to discuss the FERA, our contribution to the National Recovery Program.

Dr. F. R. Croson of Clay Center and Dr. C. C. Stillman of Morganville, were the principal speakers. Dinner was served at 6:30 in the Community Hospital dining room and at 8:00 those present assembled in the nurses' sitting room for the discussion and social hour.

Those present included: Doctors Croson, Clay Center; Stillman, Morganville; Shaffer, Simpson; Hope, Hunter; Haggman, Scandia; Scott, Lebanon; Hartig, Downs; Fautz, Minneapolis; Bennett and Hawley, Mankato; Plowman, Jewell City; Berggren and Rathert, Cawker City, and Weltmer, Vallette, Collins, Madtson, Pickler and Spessard, Beloit.

Two of the County Commissioners,

John Albert, Beloit, and George Scholl, Glen Elder, and two representatives from the poor relief, J. P. Boesche and Miss Katherine Green, were also present.

Each one was ready and willing to cooperate with the state and federal government in any way to bring about a better deal for all. Those present felt they had spent a profitable evening.

MARTHA MADTSON, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, January 8, 1934. Preceding the program, dinner was served to the members and guests, including members of the Council who had held the midwinter meeting in Topeka on that date. Dr. Guy A. Finney, president, was in the chair.

Dr. H. N. Tihen, of Wichita, was the guest speaker and discussed "Medical Medley." In his discussion, Dr. Tihen presented most interesting observations

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on medical practice in Europe which he had observed on his recent trip. Dr. Tihen also gave an interesting talk on "Old Grecian History," which he illustrated with moving pictures he had taken in various places in Greece.

Four new members were elected: Doctors Ralph M. Fellows, A. E. Hiebert, S. R. Boykin and A. M. Daugherty, all of Topeka.

Ninety-five members and guests, including members of the Council, were present.

EARLE G. BROWN, M.D., Secretary.

WASHINGTON COUNTY MEDICAL SOCIETY

The regular meeting of the Washington County Medical Society was held on January 9 in Greenleaf, Kansas. After a delightful dinner as guests of Doctors Snyder and L'Ecuyer the meeting came to order in Dr. Snyder's office. Program: "Seminal Vesicle Troubles," by Dr. L'Ecuyer, and "Sinuses—Their Location and Drainage," by Dr. Snyder. Most of the members were present.

The next meeting is to be held in Washington, program to be furnished by Doctors Smith and Burnaman.

It was agreed to hold a joint meeting with Clay County in Washington this spring, and a return meeting at Clay Center in the fall.

DONALD A. BITZER, M.D., Secretary.

WILSON COUNTY MEDICAL SOCIETY

The Wilson County Medical Society met at the Loether Hotel, Fredonia, January

16, 1934, dinner at 6:30, meeting following.

Dr. C. T. Hinshaw talked on scarlet fever, dwelling on its treatment with serum and its prophylaxis by means of vaccine. This was of much interest and discussed by several. Dr. B. R. Riley pioneered eight years ago in prophylaxis.

Dr. H. N. Tihen gave a very interesting talk about the things he saw during his recent eight months in Vienna. The use of the fluoroscope is more common there probably account high price of films; the use of radium for uterine cancer not so common or well known over there presumably account expense. Dr. L. D. Johnson of Chanute stated his belief in the superiority of radium over all other forms of treatment in this condition. Dr. Tihen's talk was interesting and worth while. Both speakers were from Wichita and of course being from there, Dr. Tihen said nothing at all about the state meeting to be held at Wichita in May.

Dr. A. C. Flack presided, introducing out-of-the-county visitors: Doctors H. A. West, Yates Center; F. L. Depew, Howard; F. K. Day and John Clark, Longton; L. D. Johnson, W. E. Royster, J. N. Sherman, James A. Butin, Chanute, and E. G. Coyle, C. E. Grigsby, J. H. Low, and W. G. Low, Coffeyville. Dr. Coyle, president of the Montgomery County Society was called upon by the President and made a short talk.

Dr. A. C. Johnson, Buffalo, recently from Ford County, was taken into the Society.

E. C. DUNCAN, M.D., Secretary.

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KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

In Mrs. Nodurfth's News Letter, we are reminded of our dues which should be in the state treasurer's office by March 1. The state dues are seventy-five cents, national dues, twenty-five cents, making a total of one dollar. This amount plus your county dues should be paid at one time. The county treasurer must have your name exactly as your husband's name appears in the A.M.A. Directory. If this is not done, you are not considered eligible for membership in the auxiliary. Receipt books may be obtained from Mrs. Alfred O'Donnell, Ellsworth.

You are asked to have some member of your organization write a history of your organization by February 10, and mail to Mrs. W. G. Emery, 603 Shilling St., Hiawatha, Kansas.

The regular meeting for Sedgwick

County will be February 13, at the Allis Hotel. Guests will be the out-of-town board members. February 13 a state board meeting will be held at the home of Mrs. Nodurfth at 9 a. m. Each board member is invited to luncheon at Mrs. Nodurfth's. The Wichita ladies want to entertain the visitors in their homes, so you are asked to signify your intention of coming by writing to Mrs. Nodurfth at once and the name of your hostess will be sent to you.

The following announcements are a splendid showing for southeastern Kansas. Three new auxiliaries have been organized in this district.

December 7, Mrs. E. C. Duncan and Mrs. E. J. Nodurfth helped to organize a Montgomery County Auxiliary at Independence, Kansas, with nine charter members. The officers are: President, Mrs. F. W. Shelton; Vice President, Mrs. C. A. Thomas; Secretary-treasurer, Mrs. Stephan Flatt.

The ladies entertained for Mrs. Nodurfth and Mrs. Duncan with a luncheon at the Carl Leon Hotel.

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Crawford County has organized with the following women as officers: Mrs. H. L. Stelle, president; Mrs. C. S. Newman, vice president; Mrs. H. E. Marchbanks, secretary, and Mrs. D. B. McKee, treasurer.

Labette County has organized; the first meeting will be held at the home of Mrs. N. C. Morrow.

Lyon County women invited Mrs. Nordurft to speak to them January 4. We hope they will very soon join the state auxiliary.

Sedgwick County Auxiliary sponsored the sale of Red Cross buttons during December.

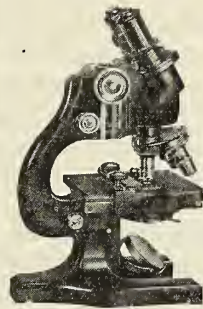
BROWN COUNTY AUXILIARY

In October Dr. and Mrs. C. R. Rucker, Dr. and Mrs. S. M. Hibbard, Dr. and Mrs. Arthur Haines, Dr. and Mrs. H. D. Deaver were hosts at a dinner given at the Country Club at Sabetha in compliment to the Brown County Medical Association and its auxiliary. The Richardson County Medical Society Auxiliary were the honor guests.

Following the dinner a "hallowe'en frolic" arranged by Mrs. E. K. Lawrence, chairman of the social committee, assisted by Mrs. Paul Conrad and Mrs. E. J. Leigh, was carried out. Guests will have many happy memories of the party, the beautiful surroundings, the cordiality and good cheer of the hosts.

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Dr. and Mrs. W. G. Emery, and Dr. and Mrs. E. K. Lawrence were hosts at a dinner given at the Pullman Cafe, Hiawatha, in November, complimentary to the Brown County Medical Society and its auxiliary. Decorations suggestive of the Thanksgiving season were used.

Following the dinner the ladies went to the home of Mrs. Leigh for a short business period and re-elected for the coming year officers as follows:

Mrs. Paul Conrad, president; Mrs. H. C. Deaver, vice president; Mrs. Edmonds, second vice president; Mrs. R. T. Nichols, secretary; Mrs. E. K. Lawrence, treasurer, and Mrs. E. J. Leigh, reporter.

The doctors adjourned to the office of Dr. Paul E. Conrad for a business session. After this meeting they joined the ladies for a very delightful social hour. Dr. and Mrs. McEwen, of Morrill, are new members of the Society.

The last meeting of the Brown County Auxiliary was held at the home of Mrs. W. G. Emery; Mrs. Paul Conrad presided. Mrs. R. T. Nichols, Mrs. E. J. Leigh and

Mrs. Conrad will arrange programs for the coming year. The ladies voted a years subscription to Hygeia to be placed in the libraries at Hiawatha, Sabetha, Horton and Morrill. Flowers were sent to Mrs. E. K. Lawrence, who has been ill. Mrs. R. J. Portman, Miss Nannie Mitchell and Mrs. J. R. Heryford of Fairview, were guests.

Mrs. R. T. NICHOLS, Secretary.

CENTRAL KANSAS AUXILIARY

The Woman's Auxiliary to the Central Kansas Medical Society met Thursday afternoon, December 14, at the home of Mrs. Alfred O'Donnell in Ellsworth. Mrs. E. J. Nodurft and Mrs. W. Cox, both of Wichita, were guests of the afternoon.

Newly elected officers for 1934 are: Mrs. William Brewer, Hays, president; Mrs. E. C. Petterson, Palco, vice president; Mrs. B. H. Mayer, Ellsworth, secretary, and Mrs. W. Y. Herrick, WaKeeney, treasurer.

At 6:30 p.m. the auxiliary went to the Ellsworth Country Club where they were

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ORIGINAL ARTICLES

OVERWEIGHT—ITS CAUSE AND TREATMENT*

EDW. H. HASHINGER, M.D.†

Kansas City, Missouri

The bridge party topic of dieting is still holding its own with the more recent discussions of depression, inflation and beer, and when the latter three shall have faded from popularity, shapes, sizes, curves, styles, lamb chops and lemon juice will continue to be mixed generally with grand slams and Culbertson. Likewise the male of the species, while not so conversant about weight and diets, is nevertheless more seriously concerned today with his shape and weight than ever before. The bridge table and the Turkish bath may be lowly beginnings for the discussion of so serious a topic as overweight, but if it eventually leads to serious consideration on the part of the medical profession, such lowliness of origin has full justification.

Certainly we of the profession of medicine must take seriously this topic of overweight. Its diagnosis and treatment lie solely within the realm of our calling. Let us acknowledge our child, now considerably grown-up. No longer should we pooh-poo the topic of weight reduction; no longer blame all overweights on heredity; no longer drive our constituency to the quacks or back yard fence dietitians. Whether we like it or not, our purpose is prevention of serious disease, and by correct care of the diet of our patients we may help in preventing such conditions as tuberculosis—occurring in the self selected faulty diet—cardio-vascular disease, or diabetes, from overeating and obesity.

How then shall we define overweight. Certainly not by the scales alone. We shall take into consideration the bony framework of the patient; his inheritance of brawn; his occupation; and symptoms of constitutional disturbance. But bear in mind if you are too fat something is wrong with either your constitution or way of living, or both.

The treatment of overweight is dependent absolutely on the cause. Fundamentally the cause of fat accumulation is an ingestion of food in excess of the metabolic utilization. But many fat people are light eaters; they fall into the class of imperfect metabolism. Correctly there are but two classifications of the overweight: (1) The simple, or endogenous—due to overeating and under exercise, and (2) endocrine. I believe that in the past we have overestimated the number of overweights in the "simple" classification, and paid far too little attention to the endocrine types.

ENDOCRINE

We have three principal endocrine types—thyroid, pituitary, and gonadal. In the pure thyroid deficiency we have the rough, dry skin, coarse hair that falls out, drowsiness, laziness, with mind sluggish, and menses profuse. The fat is pretty generally distributed over the entire body. In the pituitary type we have the fat distributed over the upper arms, thighs, chest and abdomen, with small hands and feet. Usually scanty menses. History of some delay in sex development. The gonadal type takes on fat over the abdomen, much as the woman past 50. However, we very frequently—in fact it is customary—have more than a single gland involved. A good number of our overweights should be caught in childhood, when the glands are first disturbed in their normal function. The "fatty" in school is more sick than the skinny underweight, and gets nothing but taunts from his schoolmates. The

*Read before the 75th annual meeting of the Kansas Medical Society at Lawrence, Kansas, May 2, 3 and 4, 1933.

†Department of Internal Medicine, University of Kansas School of Medicine.

father may take just pride and joy in raising a fat hog for the market, but too often he refers to his fat child with the same sense of pride. The fat child is a sick child.

How shall we treat overweight. The following are some of the popular methods now generally in vogue:

1. *Dieting*. These are usually absurd, unbalanced diets, containing a lack of vitamins, minerals and protein. Anemia, sterility, and diseases resulting from undernourishment follow in their wake. One of the great absurdities is the oft quoted idea of drinking less water. Fat comes from food, not water. Another nit-wit diet is the pineapple and lamb chops regime, very deficient in vitamins and minerals. In the same category, is the silly raw tomato and hard boiled egg habit. Weight reduction is a serious matter. Dieting should be done under the supervision of a physician. Later in this paper I will outline a dietary regime.

2. *Purging* has long been a favorite, and attains its end by removing the food taken before digestive processes can do their function. I wonder why somebody has not advanced the use of emetics. They would accomplish the same purpose beautifully, and save the wear and tear on the intestinal tract. Enos salts, tablets, pills, powders and chewing gum, are all favorite purging methods. High colonic irrigations defeat nature in very much the same way as purging. Mineral oil by mouth acts as a weight reducer by interfering with proper intestinal digestion and absorption of nutriment from the intestinal tract. Overeat—satisfy the palate, and bombard the intestinal tract. It isn't enough to do this with too much food, but a purge must follow.

3. *Thyroid extract*. Many of the popular advertised remedies have thyroid extract as the principal constituent. Truly a dangerous drug to be taken without the observation of the physician. Iodine is often used, probably due to its stimulating action on the thyroid gland.

4. *Di-nitro-phenol*. Much has appeared lately in the literature concerning Di-nitro-phenol in weight reduction. We have made use of this compound for the past six months and apparently are securing excellent results. When we have used it in a

sufficiently large series of cases—at least 100—it will be the subject of a separate report. At this time you should be reminded that its usage is not without some attendant risk. One complication noted is excessive sweating, which can be serious in our winter climate, and which seems not to have been considered by the original writers from Sunny California.

5. *Reducing breads*. These, if taken before meal time, act by producing a large bulk in the stomach, thus destroying the appetite for more food—sort of a mechanical starvation. Agar is the principal constituent, but some have been accused of containing thyroid extract also.

6. *Exercise*. The greatest misstatement in the discussion of weight reduction, is to give consideration to exercise as a prominent aid. We should, of course, naturally in our daily life take more exercise than a hog, and it is entirely possible that most of us do not take sufficient exercise, but just the same I'll debate the affirmative side of the statement that exercise causes more ill health than does lack of exercise. By exercise, I mean forced manual exertion, aside from the daily routine of our life. There is nothing more pathetic than to see a group of middle aged men or women going through a series of severe exercises in a gymnasium, at the guidance of an ignorant physical trainer—puffing, panting, sweating, groaning, dizzily doing their daily dozen. I feel the urge to pass out professional cards to the group taking such exercises, for I know they are preparing themselves rapidly for medical attention. A few years ago we had the popular mechanical exerciser with us, and we still have the scourge of rubber girdles, injurious principally because of their interference with sweat relief.

7. *Miscellaneous*. In this group may be mentioned various pastes, soaps, and bath powders. Their lack of success restricts their long usage.

PROPER DIETING

As I said before, weight reduction is a serious matter, and the medical practitioner must assume the responsibility for its consummation, or the quack will manage it in his own peculiar fashion. The basis of a dietary regime is low caloric value, but balanced as to minerals, pro-

teins, vitamins, and bulk. The average reduction diet will call for about 1000 calories daily. This may be reduced to as low as 800 for the idle small female, and increased to 1400 for the large active man, and the desired end—slow, gradual, and definite weight reduction be attained. We may secure our protein base from lean meats, fish, and fowl, and milk. Green vegetables, help us with our vitamins, minerals and bulk. We may make mayonnaise dressing with mineral oil. Coffee and tea have no food value so may be taken liberally. We delete from the diet sweets, cereals, flour, breadstuffs, eggs, some rich cheeses, cream, butter, fat meats or olive oil. Rapid reduction of weight, attained by placing patient in bed, on a very low calory diet such as 500 to 600 calories daily, I believe to be harmful. By this method, I have known of daily reductions of two and three pounds over a period of two or three weeks time. Scientific weight reduction is not simply the removal of weight, but the re-education of the demands of the patient for a more rational diet. For that reason it seems to me that the moderate diet—900 to 1200 calories—should be given over a long period of time, with the optimum weekly reduction of one and a half to two pounds. Slow reduction in women often avoids wrinkles, redundant skin, floppy arms, and appearance of increased age. With this slow reduction method, which I have used in my private practice, and at the clinic of the University of Kansas Medical School, in over 500 patients, I have frequently required the application of epsom salts packs to the neck and arms, and breasts, in women of middle age or past, who have been required to reduce large amounts, in an effort to prevent sagging. I believe this a great help, coupled with gentle massage, and application of astringents, in an effort to return the redundant skin to a normal appearing state.

ENDOCRINE THERAPY

Before placing the patient on endocrine therapy, in addition to general physical examination, and in the case of women careful menstrual history, a basal metabolic rate and fasting blood sugar determination should be made. I believe the

blood sugar determination to be of almost as great value in depicting under metabolism as the routine basal metabolism test. In my series of cases I found a very close proportional increase in blood sugar to the decrease in metabolic rate. In some instances the BMR unquestionably was faultily determined, as manifested by the blood sugar reading; and subsequent endocrine therapy with good results substantiated my reliance on the blood sugar figures as my guide. Thirty-two per cent of the definitely obese patients showed a blood sugar above normal, that is about 125 mgs., one being 162 mgms. The lowest BMR was minus 67 per cent, in a woman who weighed 324 pounds. Shall we have a dogmatic figure above which we give no thyroid, and below which we administer it? No. The age of the patient; whether male or female; the menstrual history; and the activity of the patient are all factors which merit consideration. The woman past 50, with a BMR of plus eight, should be given some thyroid extract for the purpose of oxidizing or metabolizing due to lack of exercise stimulation. Care should be used in giving young women and men thyroid extract if their BMR is normal or above. I will not permit any patient to take thyroid extract under my direction without seeing them once a week, for the taking of the pulse, etc.

Quite often thyroid extract should be supplemented with gonadal treatment, in the form of whole ovarian, corpus luteum, or theelin, and in some instances all three gland extracts given, by adding pituitary extract. How, and what kind shall be administered? In my experience I have found that the American brands of thyroid extract, produced according to our standardized pharmacological methods, are inclined at some time or other to produce thyroid shock suddenly. By using the thyroid extract produced by Burroughs-Wellcome & Co. in approximately four times the dosage of other extracts, I find that whenever evidence of saturation with thyroid extract occurs, it does so very slowly, and can be promptly ascertained and adjusted before any definite overstimulation of the patient's thyroid gland occurs. I customarily start the patient out

with six grains of the B. W. & Co. extract daily, increasing it weekly, and if the BMR showed marked deficiency, up to as high as 45 grains daily. For the ordinary obese patient, with but little disturbance of the thyroid function, six grains daily will usually suffice to produce the desired increased metabolism, or stimulation to the pituitary or gonads. There are some patients who cannot take even the small dosage of six grains daily, and they are accordingly reduced to four or even two grains. I find that unless there is a very marked thyroid deficiency as manifested by a very low BMR, that after the lapse of about six to eight weeks, no more thyroid extract is necessary for the continuation of regular desired weight reduction. Even if the patient has an obvious endocrine dyscrasia, I place them on the diet, so as not to overburden their metabolizing agents.

The obese woman in menopause, or just past menopause, quite often needs both thyroid and whole ovarian extracts. I believe that, if possible, all ovarian extracts should be given hypodermically. The pituitary extract (anterior), may be given hypodermically or by mouth. If gonadal disturbance is very evident, as in the young obese, the anterior pituitary sex hormone would be the most suitable form to use.

There was a time when pluriglandular therapies were much derided, but certain brave souls in the medical profession continued to use them empirically, until the experimental physiologist could catch up with his reasons for their successful usage. Today we almost always find that we are called upon to use thyroid, pituitary, and ovarian extracts together. We still are somewhat in the dark, and no definite dosage may be set down, or method of usage, for any group of patients. Each individual has a distinct requirement of his own, and the physician must search for that desired dosage and combination. When he finds this endocrine deficit and supplies it, together with a rational diet, he will be much gratified in a gradual weight reduction in his obese patient, but will more often have the patient say that they feel so much better, regardless of the weight re-

duction or not. The present well being of the patient, the prevention of serious subsequent disease, and the constitutional readjustment of the individual is far more important than the cosmetic change in the patient's physique. In exacting your pound of fat, you contribute health. You not only reduce the burden of weight, but of mind and spirit, and a far reaching health reconstruction follows.

Again bear in mind that overweight is a disease, and that weight reduction is a serious matter, and lastly the physician is the one to supervise the correction of this disease.

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OBSTETRICAL HEMORRHAGE ANTE PARTUM*

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I realize this is much too broad a subject to be treated extensively in one paper, but I hope we may derive some benefit from the study. Hemorrhage during pregnancy and the puerperium is the most important subject in obstetrics, except possibly infection.

The two great divisions are ante partum and postpartum hemorrhage—before or after delivery. The principal causes of hemorrhage are: (1) Ante partum: abortion, ectopic pregnancy, placenta previa, and premature detachment of the placenta. (2) Postpartum: Uterine inertia, retained placenta, inverted uterus, and deep cervical tears.

It is a well known fact that mother nature has just one way to control bleeding from the uterus during parturition, and that is a firmly contracted uterus which closes the sinuses in the uterine wall and thus prevents the escape of blood. Anything that interferes with this natural process will cause free and sometimes fatal loss of blood, such as retained or adherent placenta in abortion, or inertia. The only way to prevent or control the bleeding is to empty the uterus and stimulate it to firm contraction. We will consider briefly some of these conditions.

Abortion: This term is used now to indicate the emptying of the uterus before

*Read before the meeting of the Wyandotte County Medical Society at Kansas City, Kansas, March 15, 1932.

the time of viability or the twenty-sixth week. The term miscarriage is used by the laity, as the term abortion to them indicates a criminal act.

Diagnosis: Before a diagnosis of abortion can be definitely made the fact of pregnancy must be established beyond a reasonable doubt; this can usually be done only after a careful examination as the history given by the patient is often intentionally misleading. When the fact of pregnancy is established the attending physician must decide whether the abortion is only threatened or inevitable; if inevitable whether complete or incomplete. Upon the establishment of these facts must depend the treatment.

Abortion is usually considered inevitable when there are periodic pains similar to labor pains and a considerable amount of uterine bleeding. The object of treatment in inevitable abortion with free hemorrhage is to empty the uterus as quickly and conservatively as possible of the now foreign body, to control the hemorrhage and treat the patient for anemia, caused by the loss of blood. Fluids are given intravenously, under the breasts or by proctoclysis; often a transfusion is of great aid to these patients and is good treatment where indicated; it is not often necessary except in neglected cases.

There is much discussion among authorities as to the best treatment of these cases and they are quite definitely divided into advocates of the conservative and the radical methods. The conservatives believe in watchful waiting or in allowing nature to take her course; the radicals advise immediate emptying of the uterus by gentle dilatation and carefully removing the remaining tissues with a ring curette or with the finger covered with gauze, after which the uterus is packed with iodoform gauze, the vagina with plain gauze and the patient put to bed.

I acknowledge that I am convinced the sooner an inevitable abortion is completed the better for the patient both in the control of hemorrhage and the avoidance of sepsis. I follow this method in my practice and have never had occasion for regret.

Premature detachment of the placenta: The abruptio-placenta of DeLee is a serious though not so common complication as abortion. Here again we have a partial separation of the placental attachment where the uterus cannot contract to control the hemorrhage and as the cervix is still undilated and the membranes unruptured the hemorrhage usually is concealed. Consequently, we have to depend upon the physical symptoms to make our diagnosis.

Cause: The most important predisposing cause of this serious condition is the toxemia of pregnancy: not infrequently there is a history of traumatism causing a partial separation with bleeding and occasionally, severe muscular exertion.

Diagnosis: The hemorrhage may develop so gradually that the patient herself may ignore her symptoms until the condition is grave, or it may be severe from the first. Severe cramping pains may occur, but not like labor pains; there may or may not be an escape of blood from the vagina. Little information is gained by vaginal examination but upon examination of the abdomen the muscles are hard and the uterus firmly and tonically contracted and has a peculiar boggy feel because of the blood in the uterine cavity. The patient has an anxious, frightened look and is decidedly uncomfortable.

Treatment: There are two recognized procedures in these cases: (1) The vagina is firmly tamponed under exacting antiseptic precautions, a firm abdominal binder applied to make pressure upon the uterus, and the patient given morphine in sufficient doses to keep her fairly comfortable. When the labor pains begin the uterus is emptied by version or forceps. (2) There are many obstetricians who believe with our present technique and hospitalization that abdominal section offers the best results. I have had two such cases, one in a primipara from toxemic origin in which we did a section, but the loss of blood was too great the foetus being dead in the uterus and the mother died on the table from hemorrhage and shock. The other, a multipara in which I was able to do a forceps delivery under ether; the foetus was dead, but the mother made a

good recovery. A blood clot was expelled with the placenta almost as large as the child.

This condition though not frequent is a very severe complication and unless dealt with promptly will result in the death of both mother and child. In the treatment by tampon the fetal mortality is approximately 90 per cent with a maternal mortality of 25 per cent or more. By abdominal section if diagnosed and treated early we should decrease this mortality by at least one-half.

Placenta previa: We are all more or less familiar with this condition as any man doing a general practice will not go many years without encountering it. Placenta previa is that condition where the placenta is attached to the uterine wall below the contraction ring or to that part of the lower uterine segment that must dilate during delivery. Dilatation of the uterus at the site of low attachment, will result in detachment of the placenta with free bleeding, and the amount is determined by the extent of the previa.

Diagnosis: The principal symptom and often the only one, is vaginal hemorrhage. The statement of Dr. DeLee that: "A painless, causeless hemorrhage during the later months of pregnancy is almost surely placenta previa," holds good today. Sometimes the placental bruit may be heard low down in the pelvis as was found in a case I treated recently it could be heard just as far down as we could place the stethoscope. On vaginal examination the placenta may be felt, but all examinations must be made with great care, preferably after the patient is in the hospital so if there is an increase in the hemorrhage the case may be properly cared for immediately. In most of these cases the condition is not suspected until there is a hemorrhage. Dr. Luke recently had such experience with a young primipara who was downtown when a severe hemorrhage occurred. She was removed to the hospital, carefully prepared and sectioned at once. After delivery she was treated for her anemia by transfusion and other approved methods; made a complete recovery and was sent home with a living baby.

Any suspected case of hemorrhage in the pregnant woman should be placed at once in a hospital equipped to care for such cases. She should be kept there until delivered, or the diagnosis disproved.

Treatment: Several factors must be taken into consideration before a decision is made. I know of no circumstances requiring greater surgical skill and judgment. The course pursued by the attendant will depend upon the amount of hemorrhage; the period of gestation; the condition of the cervix, whether soft and dilatable, or rigid and undilated as in most primipara. In multipara and fortunately most of our previas are such, where the cervix is easily dilated, if the hemorrhage is not great a bag may be inserted to control bleeding, and help dilatation when the delivery is completed by forceps or version at the discretion of the operator. Let us remember the cervix and lower uterine segments are much softened and tear easily and if too much force is used there may be tears extending up into the uterus amounting to ruptured uterus, with severe hemorrhage and our object defeated. In primipara or others where the hemorrhage is so severe as to demand immediate delivery and the cervix is rigid or not easily dilatable, abdominal section offers the quickest and safest method of delivery. Here, too, must be taken into consideration the care the patient has received; the number of vaginal examinations and how made.

Some months ago a patient from the country was referred to my service at Bethany Hospital; on taking the history I found the patient had been examined some six or more times with the bare hand, without any preparation of the patient or any attempt at asepsis. As this woman was past 40 years old, a primipara with a contracted pelvis and large living baby with no engagement after many hours of labor, we decided to take the chance. She was sectioned and before the uterus was closed we poured into it two ounces of 3 per cent mercurochrome which drained down through the genital tract. This patient made a good recovery without any signs of infection and went home with her baby.

Ectopic pregnancy: Here is another serious and sometimes fatal condition that comes upon us unawares and is often an emergency, when first seen by the physician. In other cases the onset is gradual, an almost immediate diagnosis may be made and treatment instituted before serious hemorrhage has taken place. In either case the treatment is the same: Abdominal section, control of the bleeding, and treatment of the accompanying anemia. A new method of treatment which has been used with success is to take the free blood out of the abdomen, citrate and strain and reinject into the patient's veins; fine in theory but often difficult in practice. I have operated on one patient twice for ectopic pregnancy; a normal pregnancy and labor between.

Any vaginal bleeding during pregnancy no matter how slight, is a serious complication, and often becomes dangerous so quickly that they must not be tampered with.

CONCLUSIONS

1. Any bleeding from the genital tract during pregnancy is a serious condition and should not be taken lightly by the medical attendant.
2. Maternity patients should be instructed to report immediately any loss of blood no matter how small.
3. Ante partum hemorrhage challenges our best judgment and effort.
4. Some of these cases are best treated by abdominal section and where indicated should be given the benefit of this newer treatment without loss of time.

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Your membership in the American Medical Association enables that organization to carry on its many activities in behalf of the profession—the Council on Medical Education, to guard against letting down the bars to unqualified practitioners; the Councils on Pharmacy and Chemistry, on Physical Therapy and on Foods, to bring forth the real truth about drugs, apparatus and foods offered to the profession; the Bureaus of Legal Medicine and of Medical Economics, to combat unfavorable legislation and socialized tendencies in medicine.

MANAGEMENT OF OCCIPITOPOSTERIOR POSITION

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In reviewing obstetrical problems, the occipitoposterior position is the most confusing complication to the general practitioner, who delivers the majority of the babies in the United States.

Barton Cooke Hirst in 1888 said: "If I were to be asked what one obstetrical difficulty in my experience has caused the most maternal and fetal deaths, what one had caused the most maternal and fetal accidents not necessarily fatal—accidents, however, often making the rest of life worthless, or still worse than merely worthless, a tragedy. I think I would say, occipitoposterior position."

Since Hirst made this statement much has been written concerning the treatment of occipitoposterior position, and yet our leading teachers cannot agree on the treatment. Epstein and Fleischer recommend that nature take her course. Danforth favors manual rotation. Bill publishes statistics advocating the modified Scanzoni maneuver, while Vaux's statistics show version to yield the lowest fetal mortality rate. Many groups of statistics will have to be studied in order to determine which method gives the lowest maternal morbidity, and the lowest fetal mortality rate. There is no reason why all parturient women with occipitoposterior position should have an operative delivery, but in conservative hands maternal morbidity and fetal mortality have been markedly decreased by timely interference. We cannot lower our standard of obstetrics to that of the average general practitioner, but should encourage and help the practitioner to handle his cases with the skill of a specialist.

In 1,034 consecutive cases during the last four years, on the service of Dr. J. D. Clark, 288, or 27.8 per cent were posterior position at the beginning of labor. This is a higher percentage of posteriors than most of the eastern clinics report, and is explained by the variation of obstetrical material, and that the diagnosis was made

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early in labor. In the group of 288 occipitoposteriors, 174, or 60 per cent were primiparas, and 114, or 40 per cent were multiparas. Spontaneous rotation occurred in 120, or 41.6 per cent of the cases. Manual rotation was performed in 160, or 55.5 per cent of the cases. In the 160 cases that were rotated manually 46 per cent delivered normally, while labor was terminated with forceps in 54 per cent. In eight cases manual rotation could not be accomplished with ease, and six of them were delivered as posteriors in preference to doing a version, and possibly rupturing the uterus. One baby was delivered by version, and one was delivered by craniotomy, because of a contraction ring. The fetal mortality rate was .75 per cent. There were no maternal deaths, or unusual complications. The above data are summarized in Table 1.

TABLE 1
Summary of 1,034 Cases

Total number of cases	1,034	1929-32
Posterior position	288	27.8%
Primiparas	174	60.4%
Multiparas	114	39.6%
Rotated spontaneously	120	41.6%
Rotated manually	160	55.5%
Delivered as posteriors	6	2.2%
Version	1	0.4%
Craniotomy	1	0.4%
Fetal deaths	2	0.75%

The management of occipitoposterior begins prenatally and is prophylactic. When a posterior position is diagnosed during the last month of pregnancy, the patient should be reexamined to find the etiological factor. In most cases there is an anatomical factor such as, a disproportion between the fetal head and the pelvis, high sacral promontory, deviation of the uterus, pendulous abdomen, or a low attachment of the placenta. If pelvic measurement indicates that delivery can be accomplished from below, the patient is advised to wear a folded bath towel 8"x10", under her maternity corset. This pad is folded so that the rough side does not irritate the skin, and is placed between the anterior iliac spine of the mother and the anterior shoulder of the baby. At night she is to sleep on this same pad. This procedure will often rotate a posterior to an anterior position. Other positions such as

the knee-chest, or the squatting position may be advised, but are of questionable value.

After labor starts, it is important that the diagnosis of occipitoposterior be made early. The small parts are to the front and the back is deep in the flank. There is a distinct "sunken area" over the pubis caused by the anterior shoulder. The fetal heart tones are best heard below the umbilicus, and deep in the flank. Rectally the head is high, and it may be impossible to feel the cervix, or the sagittal suture. When the cervix dilates, or if the lower uterine segment is thin, the anterior fontanel may be palpated in the anterior quadrants of the pelvis. Vaginal examinations should not be done, because of the danger of infection, and the possibility of an operative delivery.

The station and rotation should be carefully charted so as to follow the progress of the labor. Because the head does not adjust itself to the lower uterine segment, dilatation is slow, and the head usually does not descend until dilatation of the cervix is complete. When the head is well flexed and the uterine contractions are strong, Sellheim's experiments have shown that the curve of the canal plus the pelvic floor are responsible for the rotation of the fetal head and back. Spontaneous rotation occurred in 41.6 per cent of the cases in this series.

The first stage of labor is prolonged, and the patient must have a great deal of encouragement. Analgesia is started as soon as the patient begins to suffer, and not at a specified dilatation of the cervix. Early in labor sodium amytal affords a great deal of relief, and the patient usually sleeps between the pains. If the patient is exhausted or the sodium amytal is not sufficient to give relief, pantopon gr. 1/3, and scopolamine gr. 1/200 act as a modified twilight sleep. Towards the end of the first stage and the second stage, gas or a few drops of ether will have to be given. For any operative work, complete relaxation of the uterus is necessary, and ether is the anesthetic of choice. A competent anesthetist is as necessary to the obstetrician as the surgeon, and should be insisted upon, especially in the home deliveries.

In some cases during the first stage of labor, a Scultetus binder is of benefit. It holds the uterus in position and supports the abdominal wall. The patient is given fluids, especially fruit juices, and milk chocolate with plenty of glucose to maintain the caloric requirement. The lack of nourishment produces an acidosis which tends to hasten exhaustion. The average woman needs 1,500 calories per 24 hours.

As labor progresses the head rotates anterior, or it stops in deep transverse arrest, or else the occiput stays in the posterior position. If the head descends after complete dilatation delivery may be hastened by exerting pressure on the brow, thus increase the flexion, and cause rotation of the head. If the head is in deep arrest, or in posterior position a manual rotation is indicated as soon as dilatation is complete and labor is not advancing. There is no hard and fast rule as to the time of interference. It is governed by the fetal heart rate, the degree of exhaustion in the mother, and by experience gained by many hours of "watchful waiting."

Manual rotation requires considerable skill, and strict asepsis. If the operation is done in the home, the patient should receive the same careful preparation as in the hospital. It is good technique to install mercurochrome, or hexyl-resorcinol into the vagina before the membranes are ruptured. A very good antiseptic and aid in lubricating the canal is tincture of green soap. With the right hand grasp the head with the thumb and fingers, and with the external hand manipulate the anterior shoulder across the abdomen to over correction. That is LOP to ROA, and ROP to LOP. It may be necessary to push the head up out of the pelvis, in order to disengage the impacted fetus. If necessary the internal hand should go up into the uterus to rotate the posterior shoulder. As the hand is withdrawn the head is flexed correcting the military attitude, and allowing the "suboccipito-bregmatic," or smallest fetal diameter to enter the pelvis. With pains and firm Kristeller pressure the head is forced into the birth canal so that it does not rotate to its initial position. Usually descent is rapid because of the corrected diameters. If mother and baby are in good physical con-

dition, the case is left to nature to mould the head through the pelvis, and the accoucheur practices watchful waiting. A little patience at this time will more than reward the physician. If there is no advancement after one and one-half hours in the second stage of labor, the case is terminated with forceps.

When manual rotation cannot be accomplished with ease, the baby may be rotated with forceps. The indications and conditions for a forceps operation must be present. Rotation with forceps requires a great amount of dexterity in order to preserve the birth canal, and to prevent fetal injuries.

Should forceps fail, low cesarean section, or version is to be considered. Under ideal conditions the primary mortality rate of cesarean section is much greater than delivery by the natural route. Too many mothers lose their lives following cesarean section, for the sake of saving the baby, which in many cases is injured by the long labor, and attempts at delivery. If consultation is not available, the practitioner will probably choose to do a version. He should make sure that there is no contraction ring, and that there is enough liquor amnii to keep from rupturing the uterus. When labor is far advanced, and the head is fixed in the pelvis, version is a dangerous operation, and a craniotomy is indicated. Sentimental reasons should not stand in the way of doing the best for the mother.

CONCLUSION

Based upon these statistics which show a fetal mortality rate of 0.75 per cent, one is justified in asserting, that timely interference in occipitoposterior position is a rational procedure, and fully justifiable. To delay delivery until the fetal heart tones are weak, or inaudible means that irreparable damage has been done to the fetal brain, and that maternal morbidity is increased.

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MALIGNANCIES OF THE SKIN— REPORT OF 122 CASES*

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and

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In reporting this series of 122 malignancies of the skin, the intention has not been to make an exhaustive survey, but rather to point out a few salient points which have been gleaned from our experience and the extensive literature on this subject, and also to emphasize the early diagnosis and treatment of all precancerous and cancerous lesions of the skin.

HISTORICAL BACKGROUND

The evolution of our present day conception of skin malignancies and their treatment takes us through four definite periods.

The first period began soon after the discovery of *x*-ray by Roentgen in 1895. The *x*-ray was considered merely as a variation of ultraviolet light, and was given as a duplicate of the application of the Finsen light therapy (1900). It was the object of the operator to use *x*-ray until from an erythema to a vesicular or bullous dermatitis developed. This reaction was variously called *x*-ray "inflammation" or *x*-ray "burn." The primitive technique, the entire lack of control of apparatus and more especially the tubes used, which gave only the softest rays, the inability to even approximately estimate the dosage required, and finally, the insufficient knowledge with regard to the action of *x*-ray on the normal and pathological tissues, had two consequences. First, in some cases, too heavy doses were given, resulting in serious burns. Second, in other cases the doses administered were too small, and after an apparent initial healing of the

process, recurrences soon developed, which, as a rule, grew more rapidly than the original lesion.

The second period was the period of "fractional" roentgen therapy. Doses were reduced to a minimum and spread over longer periods. Instead of giving the treatments daily or on alternate days, until a good erythema was produced, as practiced previously they were now given every three or four days, later at weekly intervals, and an erythema was rarely produced. Lesions usually receded and finally started to grow again, in a great number of cases more rapidly than the original lesion.

The third period, or the period of combined therapy, was championed by Montgomery and Ormsby,¹ who advocated the combination of the knife, curette, and fulgeration with the *x*-ray. Reports of uniformly good results were increasing during this period.

The fourth period began in 1912 when Lange² introduced the massive dose method. The same year Markee and Remer³ advocated the single massive dose *x*-ray method that is widely used today.

As a result of the above historical survey, it becomes evident that intensive irradiation, in the form of massive doses, is the method of choice in the roentgen ray or radium therapy of skin cancers. This standpoint is endorsed now by the majority of radiotherapeutists.

ETIOLOGY

There are two main schools of thought as to the etiology of malignancies. First, the action of metaplastic irritants on any normal cell (Virchow). Second, the action of certain neoplastic cells (embryonic rests) which have retained in the dormant state the fetal quality of proliferation.

Much evidence, both clinical and experimental, has been collected which indicates that continued chronic irritation predisposes to a precancerous condition, i.e., prepares a favorable soil for the development of cancer. Specific examples are:

1. Cancer of the abdomen in the East Indians from the use of a stove (Kanagu stove) to warm the abdomen.

2. Cancer of the buccal mucosa in betel nut chewers.

*Read before the meeting of the Sedgwick County Medical Society, at Wichita, Kansas, January 2, 1934.

3. The frequency of cancer in paraffin and coal tar workers.

4. Cancer of the lower lip in inveterate clay pipe smokers.

5. Experimental cancer produced in white rats from the application of coal tar.

6. Frequency of cancer of the bladder in workers in the dye aniline.

7. Frequency of cancer in people exposed for long periods to actinic rays, i.e., sailors and farmers.

8. Cancer or precancerous lesions never develop under the "foulard" (silk handkerchief) worn by Egyptian women on their foreheads.

Tehopyr,⁴ in a study of 1,000 chronic ulcers of the leg, states that "the weight of evidence is strongly against the common belief that chronic ulceration over prolonged period plays an important role in the causation of cancer." Roffo⁵, working on the cholesterol content of tumors in rats, has shown that there not only is a fixation of cholesterol in neoplasms, but greater activity on the part of the organs which produce it. He suggests that cholesterol prepares the soil for subsequent malignant growths by acting as an accumulator of light. He concludes from a survey of 2,000 cases of carcinoma of the face that there is some connection between the large amount of cholesterol in areas of skin exposed to sunlight, and the high proportion of tumors in such regions.

Clinically, we know that skin cancers occur in: senile keratosis, arsenical keratosis, seborrheic keratosis, industrial keratoderma (tar), radiation dermatitis, lupus vulgaris, (moles—pigmented and non-pigmented) sebaceous cysts, papillomata, verruca vulgaris, chronic ulcers, xeroderma pigmentosum, acrodermatitis chronica atrophicans, pernio, and gumma.

Opinion is unanimous that blondes are especially liable to develop basal cell cancer and that the dark skinned races have a relative freedom from it, that men have cancer approximately twice as frequently as women, that cancer of the lip is practically unknown in women and that cancer is more common in country districts than in cities. Thus, it would seem that many metaplastic irritants may stimulate either

normal or neoplastic cells to proliferation and cancer formation.

DIAGNOSIS

The factors in diagnosis have been tersely summed by Levin⁶ in three words: eye, finger, and microscope.

PATHOLOGY

Squamous cell cancer is characterized by the predominance histologically of the elements of the outer or superficial layer of the skin. Hence, one sees: (1) Adult squamous or flat cells; (2) keratinization or hornification, (3) the formation of concentric collections of flat surface type cells, called whorls, or pearls. Histologically, the lesion in its advanced state becomes more cellular, losing the adult squamous cell character and taking on a more alveolar or tubular appearance. Basal cell cancer of the skin is characterized histologically by the preponderance of the elements of the basal layer of the skin, or rete malpighii. Hence, there will be no keratinization, no pearl formation, and no flat cell preponderance such as seen in the squamous cell type. In the usual or reticular variety large masses of densely staining polyhedral cells at the deep end of the rete pegs spread in all directions forming a reticulum or net work with lymph spaces between. The glandular, or cystic type of basal cell, is seen occasionally and also the spindle cell type, originally described by Krompecker⁷, but they are the exceptions.

It has been estimated that approximately 10 per cent of basal cell epitheliomas contain squamous cells, and one never knows when a baso-squamous cell will change into a true squamous cell lesion. Many clinicians apparently are not cognizant of this fact. If these factors were kept in mind when dealing with skin carcinoma, the per cent of recurrences and bad results would be greatly diminished. Therefore, a thorough understanding of the histopathology of skin malignancies is invaluable to the radio-therapist.

THERAPY

It is doubtful if any one method of treatment can be recommended to the exclusion of all others. The use of surgery,

diathermy, *x*-ray and radium, and the combined use of these methods, have all found their place in the treatment of skin cancers.

Caustics of various kinds in the form of pastes, applied without preliminary operative interference such as curettage, have seldom been used during the last few years, except by the quack and illegal practitioner, who continue to attract the credulous and unsophisticated public by their alluring advertising and propaganda. Rare, indeed, is the case of cancer of the skin, not too far advanced, which cannot be cured today by the expert with the use of *x*-ray, radium or surgical diathermy.

Early diagnosis and treatment in all precancerous and cancerous conditions of the skin cannot be over emphasized. The treatment should be prompt and thorough, with the aim to achieve complete eradication at one setting. The object of any treatment is to destroy every malignant cell and if this can be accomplished, regardless of the method, a permanent cure is the result.

It is now almost universally recognized that in order to produce a good therapeutic effect with roentgen or radium rays on a skin carcinoma, it is necessary to apply a dose which will have a cytocaustic action. In other words, it is necessary that we apply a dose of sufficient strength to produce a primary destructive effect on the carcinoma cell, without, however, injuring the normal tissues around the lesion. Since cancer cells "according to the law of cellular radio sensibility" show less resistance toward the action of irradiation than the normal tissue cells, we should be able to produce such an effect, at least theoretically, without difficulty. From a practical standpoint, if a lesion is very small and superficial best results are obtained by rays of long wave length (soft rays), while in larger and deeper lesions rays of shorter wave length (medium or deep rays) are more beneficial. In some cases, in order to produce a better cytocaustic effect, a combination of soft and medium or soft and deep rays, is applied.

Undoubtedly, the most common error

committed is the use of small, inadequate exposures to roentgen or radium rays, leading to the establishment of a radio-immunity. Thus, the failure of the first irradiation, renders further therapy exceedingly difficult and hazardous, and markedly reduces the chance of cure. The importance of affecting a complete sterilization of the tumor process at the first irradiation is not sufficiently appreciated.

In our experience we find best results are obtained by the use of primary fulgeration, followed immediately by massive or hypermassive single exposures of roentgen or radium rays. Soft rays are used exclusively on the small superficial lesions, while a combination of soft and hard rays in massive proportions are used on the deep infiltrated lesions. We have found a small skin curette useful, especially in basal cell lesions, following fulgeration therapy.

PERSONAL EXPERIENCE

This series of 122 cases of malignancy of the skin, represents those unselected cases seen in private practice over a period of six years. There has been an attempt to follow all these cases at regular intervals, and before attempting this paper, all but eleven cases, which we were unable to locate, returned to the office for re-examination.

In the 122 cases, 62 were males and 60 females. The locations of the lesions were as follows:

Nose	37
Lower lip	19
Cheek	17
Forehead	8
Temple	7
Hand	7
Ear	6
Upper lip	5
Chin	5
Canthus of the Eye	5
Neck	3
Tongue	1
Abdomen	1
Foot	1

It is interesting to note that in all but seven cases (those of the hand, abdomen, and foot) the malignant growth was above the clavicles.

Of the 122 patients, the ages varied from 25 to 75. Between the ages of 20 and 40 there were 25 patients, 66 between the ages of 40 and 60, and 31 between the ages

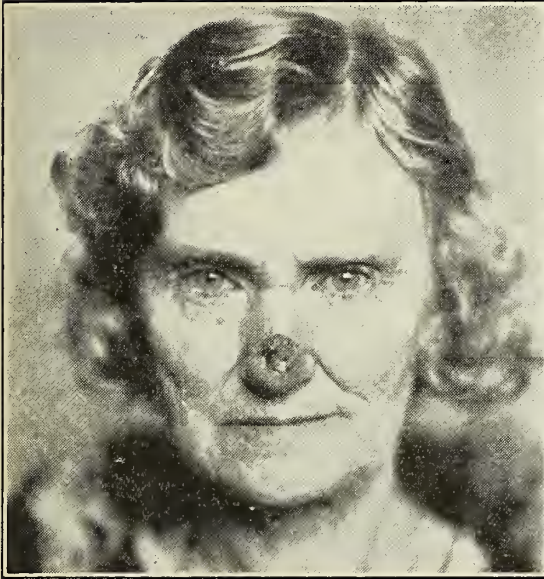


Fig. 1

A baso-squamous cell epithelioma of 18 months duration.



Fig. 2

Two years after fulgeration and radium therapy.

of 60 and 75. Most of the lesions had been present from a few months to a period of years, and a few patients were not sure how long they had had the trouble. Of course this is more or less true of any patient with an epithelioma, since he is prone to pay no attention to it until the lesion has reached large proportions, merely looking upon it as a pimple.

The treatment or the combination of treatments employed, and the final results obtained, are shown in Table 1.

TABLE 1

Therapy	Patients	Recurrences
1. Radium	13	2
2. x-Ray	4	2
3. Fulgeration	0	0
4. Fulgeration and radium..	31	0
5. Fulgeration and x-ray....	22	0
6. Fulgeration, radium, x-ray	30	0
7. Radium and x-ray.....	22	3

All the recurrences occurred within one year following the initial treatment, while the patients were still under observation. They were all subsequently re-treated and a clinical cure obtained. Although we realize that no general conclusions can be drawn from such a small series of cases, yet it is worth noting there was no recurrence of lesions treated initially with fulgeration followed by massive irradiation, and only in those cases where radiation therapy alone was used did recur-

rence take place. This evidence tends to emphasize the fact that there is no one sure cure in the treatment of skin malignancies. The physician who uses one remedy to the exclusion of all others is undoubtedly making a mistake.

Our present practice consists in the use of initial thorough fulgeration, under novocaine anesthesia, removing the charred tumor tissue with a fine skin curette, the feel of which gives one a very good index of the extent of the lesion. This is especially true in basal cell lesions, which many times are undermining in type, and are much more extensive than superficial examination would indicate. This procedure is followed immediately by a single massive dose of x-ray or radium, the base is touched with a two per cent aqueous solution of gentian violet and no bandage is applied. If the lesion is small and superficial, soft rays are used. In large indurated lesions a combination of soft and medium, or soft and hard rays is used. In lesions not accessible to this form of treatment, such as those of the tongue, buccal cavity, or in close approximation to underlying cartilage, the interstitial form of radium implants, such as the platinum needles, yields far the best

results. Where metastatic glands are found on initial examination, the primary lesion should be treated immediately and the glands left intact to act as a filter during the treatment and healing period; only after the primary lesion is healed should a block dissection of the glands be performed. Deep *x*-ray therapy to the glands, while not curative, may well be used to retard any advancement until block dissection is accomplished.

As to the lesions which give us the most difficulty, we would name them as epithelioma of the inner canthus of the eye, the naso-labial junction of the nose, mucocutaneous junction of the lower lip and where there is close approximation to an underlying cartilage. However, we believe that all cases of cancer of the skin, not too far advanced, can be cured today by the intelligent use of *x*-ray, radium, and surgical diathermy.

CONCLUSIONS

1. We herein report 122 cases of malignancies of the skin, with results of treatment.
2. Early diagnosis and treatment in all precancerous and cancerous conditions of the skin cannot be over emphasized.
3. There is no one method of treatment which can be used to the exclusion of all others.
4. Caustics of various kinds in the form of pastes are used only by the quack and illegal practitioner.
5. Our best results have been obtained by the use of initial surgical diathermy, followed immediately by a single massive dose of radiation.

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Some Remarks on the Narrowed Lumbo-Sacral Disc as an Etiological Factor in "Sciatica."

JAMES B. WEAVER, M.D.*

Low back pain and so-called "sciatica" are of great interest because of their frequency of occurrence, obscure etiology, and marked resistance; all too often, to our present methods of treatment. There is nothing that leaves us quite so subdued as to examine, during a morning in our Out-Patient Department, a group of patients with low back pain, "sciatica," or both, and at the conclusion admit to ourselves that in a fair percentage we cannot be certain that they have pain, and of the remainder be reasonably sure of the etiology in a very small percentage. We make this statement, not with claims of greater obtuseness than the average practitioner, but with the realization that we are dealing with a difficult problem, made harder to solve by a smoke screen of indefinite diagnostic terms such as "sciatica," lumbago, a sacro-iliac, sciatic scoliosis and strain. These terms may satisfy the patient but should not the honest physician.

It was, therefore, with profound interest we noted the article by Williams¹ in which our attention was drawn to a newer conception of the cause of some cases of low back pain or "sciatica." Williams drew the following conclusions:

1. A narrowing or a complete loss of the lumbosacral intervertebral discs with a localized arthritic reaction is found in the majority (74 per cent) of cases of "sciatica" and frequently in cases of lumbago.

2. Continual physiologic trauma to an intrinsically weak lumbosacral region affords a favorable site for traumatic disease.

3. A rupture of the nucleus pulposus of the lumbosacral disc would produce the clinical and roentgen findings ob-

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served in those cases which showed a reduced lumbosacral joint space.

4. Sciatic irritation is probably due to motion at the lumbosacral joint, plus the constriction if the inter-vertebral foramen and the arthritic lipping which follows loss of joint space.

5. The treatment indicated is a fixation of the lumbosacral joint.

Our experience at the time (November 1932) permitted us to agree with conclusion number 2, emphatically disagree with conclusion number 1, or else admit that we had not been reading our *x-ray* plates correctly. Conclusions number 3, 4 and 5 sounded reasonable and we were open to conviction.

In the past year we have paid particular attention to the lumbosacral disc in cases of lower back pain and "sciatica." We believe our *x-ray* examinations have been careful and adequate, yet we have been able to find only 2 cases of narrowed lumbosacral disc in 25 cases of "sciatica" and 6 in well over 100 cases of low back pain.

However, we believe Williams has described a clinical entity, and we present the following case as an example of the same and for purposes of discussion.

T. B., white female, single, age 28 years, a circus acrobat by occupation, was admitted to the University of Kansas Hospital on July 15, 1933, with a chief complaint of low back pain and pain down the posterior portion of the right thigh and calf, of eight years duration.

HISTORY

Her parents were circus acrobats and she was taught the business almost as soon as she could walk. She was perfectly healthy until the circus season of 1925. While doing a flip from one trapeze to another she missed connections and fell a distance of about 25 feet, striking on right side of her chest across an iron bar. Six ribs and right clavicle were fractured and her back was injured. She was confined to bed for one month and returned to the circus. The patient was able to do some work but had trouble in using her right arm for a month, and had constant pain in low back region. She stated that she had to walk with a shuffling gait the remainder

of the season, and if she sat down in a chair it was difficult to arise because of pain and stiffness in the back. She has had constant pain in the small of her back and down the posterior portion of the right leg ever since and this has gradually grown worse. She finished out the 1925 season, although she had numerous falls of minor consequence due to disability to arm and back.

The 1926 season was uneventful, except that she contracted malaria while touring in the south and worked at intervals only. She had to give up trapeze work for a balancing act, as her back gave her so much trouble she was frequently in danger of a fall.

She worked the season of 1927, although her back still troubled her. She had several falls of no serious consequence. She had less back and leg ache during the off-season when resting but was always present if on feet.

In the 1928 season she tried to stop a run-away team of horses and was dragged some distance with hands and feet fixed with considerable longitudinal pull in opposite directions. She was immediately rushed to the hospital where an emergency laparotomy was performed. There was said to be some ruptured intrapelvic ligaments; these were repaired and the appendix removed.

She returned for the 1929 season but had so much low back pain, radiating down her right leg that she could work only with the greatest difficulty. Presumably to relieve the backache, a uterine suspension was advised and accepted. A tube and ovary were supposed to have been removed at this operation.

She attempted to get into shape for the 1930 season, but was unable to do so because of the low back pain, and the pain in the right leg. She found out at this time that she suffered much less if she walked with crutches, and has used crutches to get about since early spring of 1930. On several occasions, she threw away her crutches for an evening, and with the aid of a stimulant, danced. She always paid, however, by being confined to bed several days thereafter with severe pain in the back and right leg. She states that she can

walk at anytime without crutches, but doesn't do so because she can walk only a short distance and because of severe pain afterwards. She is more comfortable if she stays in bed and rests a great deal. Since 1930 she has visited several well known clinics, but treatment was not advised at any of them. If a diagnosis was made she was not informed of same.

Family history of no significance.

On physical examination, we found a fairly well nourished, young woman, who weighed 97 pounds. Before the accident in 1925, she weighed 130 pounds. The patient walked with the aid of crutches. She stood with "fatigue position" of round shoulders, prominent abdomen and increase of lumbar lordosis. Spine was flexible, no muscle spasm and no abnormal curves except those noted. There was a tender area over the right sacraliic joint about the size of a 25 cent piece. Pain always elicited under pressure at this point without variation. Straight leg raising complete and painless on each side. There was no tenderness along the course of the sciatic nerve and no atrophy of the right thigh or calf. After standing a few minutes, there was marked tremor of muscles of the right leg. The reflexes appeared normal.

Neurological examination by Dr. B. Landis Elliott is as follows: "Pupils react to light and accommodation. Discs appear normal. No nystagmus. Cranial nerves negative. Knee reflexes present, active and equal on both sides. Abdominal reflexes present. No ankle or other pathological reflexes.

"Positive findings consist in an intention tremor in left hand, distinct diminution in sensation in right lower extremity, both deep and superficial and tendency to fall forward in Rhomberg position, as well as an awkwardness and spasticity in right lower extremity in walking. Compression of calf muscles in right lower extremity causes spasm of muscles of this limb to set in. Suggest spinal puncture, being careful to do Quackenstedt test."

A spinal puncture was done by Dr. Elliott which was reported as follows: "Spinal puncture performed on July 17, and the Quackenstedt test was strongly suggestive of a block. The fluid, however, gave no abnormal reaction. Therefore, it

is impossible to be certain at this time that we are dealing with organic pathology. Quackenstedt test aside, one can explain all the symptoms in this case as of functional origin, and it is questionable whether the Quackenstedt test should be accepted as absolute evidence of a block in the absence of any corroborative findings."

Laboratory examinations of spinal fluid, blood and urine were negative.

x-Ray examination of the spine and pelvis, in the anterior-posterior view, showed no abnormality. Lateral views of the spine showed a marked narrowing of the lumbar sacral disc in the posterior portion.

When we first examined this patient we were inclined to believe we were dealing with a case of hysteria and entered her into the hospital with this condition as a tentative diagnosis.

Physical therapy, consisting of daily general massage and postural exercises, was started and after a week of this we thought there was slight improvement. We soon found that if the patient stood with correct posture, i. e., shoulders back, chest out and abdomen in, she was much more comfortable than if she permitted herself to "slump," i. e., round shoulders, hollow chest, prominent abdomen, increased lumbar lordosis. It was also significant that flexion of the spine was painless, but that a certain phase of extension always, without fail, caused pain in the right gluteal region, and, if carried further, pain down the course of the sciatic nerve. A Goldthwait type of back brace was fitted to support the lower back in a correct alignment. After three weeks of treatment, as outlined, we began to gradually leave off the crutches. At the end of five weeks the crutches went into the discard. In late summer, after about eight weeks of daily treatment, the patient went on the road with the circus for two weeks, as a guest of her family, and suffered no particular discomfort. For the past six months she has been doing her exercises at home, coming to the hospital once a week to do them under supervision. She has signed a contract for next summer's circus season. At present she is 20 pounds heavier than when first examined and her whole outlook on life is much brighter.

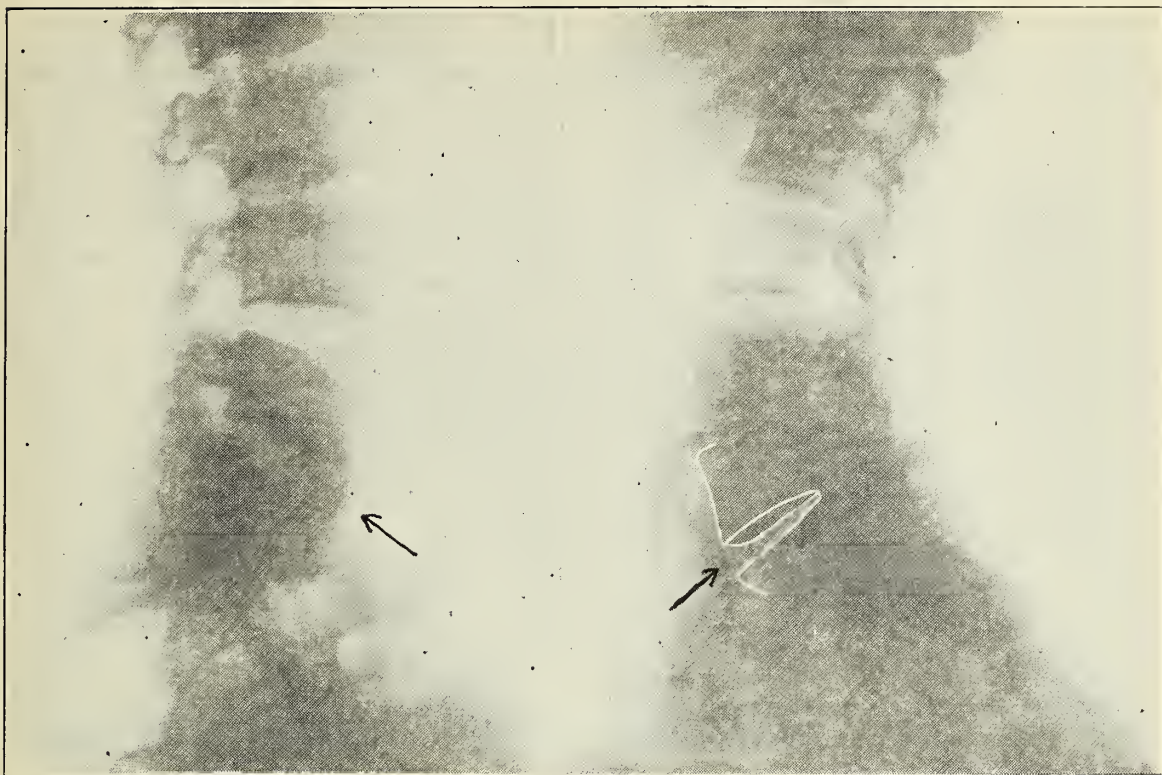


Fig. 1. Lateral view of lumbosacral region, showing normal lumbosacral disc.

Fig. 2. Lateral view of lumbosacral spine of T.B. Note marked narrowing of posterior portion of lumbosacral disc.

Our diagnosis in this case is rupture of the nucleus pulposus of the sacrolumbar disc. We believe this to be traumatic, occurring at the time of her fall in 1925.

In a more recent article, Williams² shows conclusively that a rupture of the nucleus pulposus of the sacrolumbar disc will cause the posterior narrowing of the disc as noted in the x-ray plate number 2. This narrowing also narrows the intervertebral foramen. Therefore, Williams' deduction that impingement on the nerve roots, plus extra mobility of the lumbosacral junction produces sciatic irritation certainly sounds logical and would seem to be borne out in the patient described. This deduction would seem to be further strengthened by the fact that sacrolumbar fusion has successfully alleviated the pain in the majority of these cases, and in one case of failure a lumbosacral facetectomy, for enlargement of the intervertebral foramen, has produced the desired result.

Let us quote Williams further. "From a study of approximately 500 cases of re-

duced lumbosacral joint space, with sciatic irritation, we are convinced that the lesion in most cases is due to trauma, and the pathology is probably a rupture of the nucleus pulposus of the lumbosacral disc. The trauma usually consists of a compression injury and for this reason the lesion is occasionally seen associated with compression fractures." Let us ponder on this statement. Seventy-four per cent of cases of "sciatica" are due to a narrowed lumbo-sacral disc and in most cases of narrowed disc the etiology is trauma and the pathology a probable rupture of the nucleus pulposus. What a perfectly gorgeous statement for an ambulance chasing lawyer! May we, without further delay, go on record as disagreeing most emphatically with any such conclusion. In his first paper, Williams stated that most patients gave a history of their first attack occurring when "lifting, bending or engaged in some form of strenuous exercise" to be followed by recurrent attacks of low back pain, the "sciatica" being a later symptom. It would seem to us that it

would require considerable force to cause a rupture of the nucleus pulposus, and it seems incongruous that it should occur frequently in lifting, bending and strenuous exercise and yet be seen only occasionally associated with compression fractures of the vertebrae. Williams reported that he saw 59 cases of narrowed lumbosacral disc in 1931. In a paper published in July 1933, he reports that he has studied approximately 500 cases. We infer that he must have seen close to 400 cases in 1932. If this inference be correct, and should other orthopedists recognize the condition as readily as Williams, the condition of rupture of the nucleus pulposus of the lumbosacral disc would be one of the most frequent orthopedic conditions met with and this portion of one's anatomy the most fragile. We know that such is not a fact. It would seem more logical to us, that rupture of the disc, due to sudden trauma, is probably quite rare, but that narrowing of the disc would occur more frequently due to mild continuous trauma, such as a faulty posture, throwing a continuous strain at the lumbosacral junction. Such an inference might be borne out by the fact that Williams shows lumbosacral discs of varying thicknesses. It is not unreasonable to expect to find some of these cases as congenital in origin. Ghormley³ has also written on this subject and believes arthritis of the articular facets of the lumbosacral region frequently cause sciatic pain and that the arthritis is due to long continuous trauma.

There are two main points of difference in the case we have described and the typical case as outlined by Williams, i.e., the pain has been a constant symptom, gradually increasing in severity in contradiction to intermittent attacks, and the fact that there was no muscle spasm in this case in contrast to marked muscle spasm in Williams' case. If we are to assume that a person fractures the nucleus pulposus of the lumbosacral disc, due to some trauma, thereby causing extra mobility at this point plus pressure on the nerve root due to a narrowed inter-vertebral foramen, it would then seem that the symptoms should be quite constant and not have periods of complete remission. If there is pressure

on the nerve root, causing pain, would not this pressure be fairly constant? If the extra mobility is an irritative factor, rest should give some relief, but we all know that in recurrent types of "sciatica" that the patient can be almost as active as the wish, during a period of remission. It would seem reasonable that there should be some muscle spasm which was not marked in this case.

Williams recommends conservative treatment be tried in all cases, but if this fails a lumbosacral fusion should be carried out. He recites one case of failure following fusion which was relieved by facetectomy to enlarge the inter-vertebral foramen. This procedure was first carried out by Ghormley for the same purpose, but the etiological factor considered to be arthritis as previously mentioned. Williams does not give us his percentage of cases requiring surgery, but states he is convinced that more and more of his cases should have surgical interference. We can heartily agree that conservative treatment should be tried first as this is only common sense. Further than that, we believe that it requires very fine diagnostic and prognostic acumen to select the proper cases for operation. Undoubtedly, some of these cases of "sciatica" require an operative procedure, but we believe the percentage to be very small. It has been our experience that the large majority of these cases get well eventually even if they have no treatment. In the past, trisacral fusion, lumbosacral fusion, sacroiliac fusion, immobilization in plaster, followed by a brace, stretching of the sciatic nerve and injection of the nerve with urea quinine hydrochloride and other substances, have been reported as methods of treatment in cases of "sciatica"; in each case a high percentage of cures reported. This means only one thing and that is, that many of these cases get well spontaneously. We have twice seen the opposite side from the seat of pain operated upon with a cure in each case. Certainly we do not recommend this procedure and feel that in these cases the surgeon should be thankful that spontaneous cures take place. Naturally some of these cases which resist conservative methods must be

operated upon, as an economic measure. Forty, thirty and twenty years ago we did not have lumbosacral fusions. Williams sees over 500 cases of narrowed lumbosacral disc, the large majority fractures of the nucleus pulposus due to trauma, usually occurring in the third decade of life. Now think back, how many patients or acquaintances have you seen of 50, 60 or 70 years of age, that have had recurrent attacks of "sciatica," since the age of 30 years. Perhaps the local arthritic reaction causes a fusion of the lumbosacral joint, thus producing a cure. If this is true, it would seem that many patients could be made comfortable with a back support until fusion takes place.

There are several other points in connection with this entity, if it is an entity, that one wonders about. Tuberculosis of the spine frequently completely destroys an intervertebral disc with no resultant root pains. In paralytic and idiopathic scoliosis and in developmental kyphosis, we frequently have the intervertebral disc, assuming varied shapes and forms other than normal; yet we have no root pains. We have also seen several cases of marked narrowing of the lumbosacral disc in patients who have had no "sciatica" or low back pain.

In the case we have described, relief has been obtained by changing the posture and the wearing of a back support. We do not claim a cure and have some misgivings as to whether the patient will be able to carry on her work. Certainly it is worth permitting her to try it, as she has already had too many operative procedures and is not a good subject for further ones.

In conclusion, we believe that Williams has described a clinical entity, but is far too enthusiastic as to his percentage of occurrence. Certainly he has given us food for thought and perhaps in the future we will make this diagnosis more frequently and Williams less frequently.

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CASE REPORTS

A Full-Term Abdominal Pregnancy

PAUL M. POWELL, M.D.

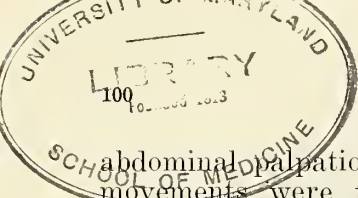
Topeka, Kansas

A full-term abdominal pregnancy is such an unusual condition that I feel the following case report will be of interest to the medical profession.

On December 17, 1933, I was called in consultation and found a rather small-boned colored woman with a very peculiar enlargement of the abdomen, and suffering from pressure symptoms. Family history was essentially negative, there being no prevailing diseases in the family. Her former health was good, having had only the usual childhood diseases. Several years ago she had one miscarriage at three months. Menstruation began at 11 years of age, regular, of the 28 day type, of four days duration and normal amount. She was uncertain as to the date of her last normal menstruation but thought it was about April 1, 1933. The patient did not know when she had first felt fetal motion.

On May 25, 1933, the patient, suffering from acute abdominal pain, nausea and vomiting, was admitted to a local hospital. Her abdomen was distended and tender and she had a bloody vaginal discharge. A mass was felt in the region of the right tube and ovary, and a diagnosis of acute salpingitis was made. She was given expectant treatment for a time and improved, but refused operation, insisting she was pregnant in spite of her physician's opinion to the contrary. She left the hospital on June 10 against the advice of her physicians.

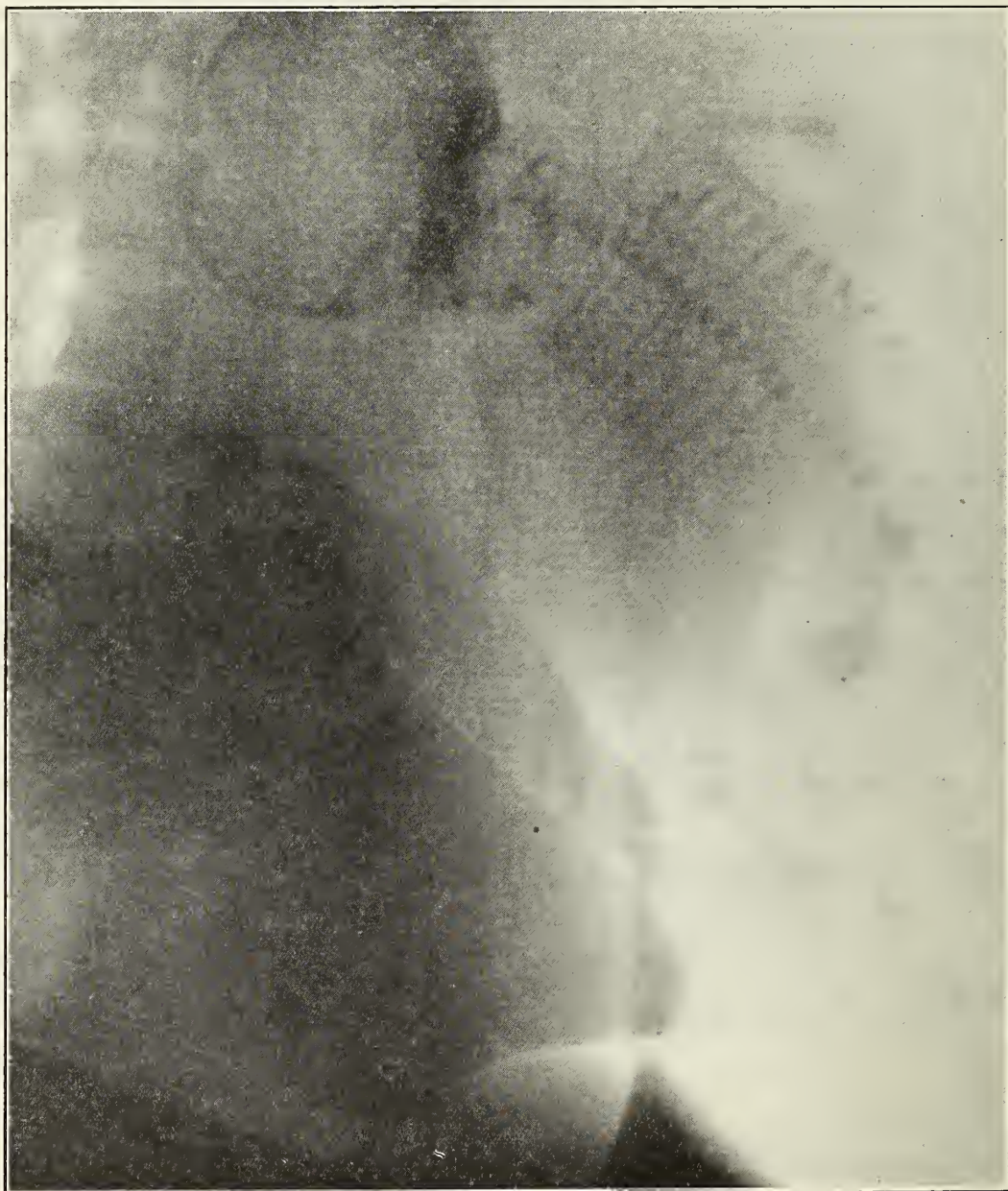
She was seen only at irregular intervals after that but the abdomen continued to enlarge and some time later told her family physician she thought she was pregnant although satisfactory evidence was not found and her claim discredited. Upon October 10, examination by her family physician revealed an enlargement of the abdomen which was confined to the lower half. Bimanual examination showed no evidence of a pregnant uterus but upon



abdominal palpation, unmistakable fetal movements were felt, apparently very near the surface. Consultation was had and diagnosis of pregnancy coupled with a large umbilical hernia was made, chiefly due to the peculiar contour of the abdomen. Patient's urine was examined at regular intervals and found to be normal. Abdominal enlargement increased. On December 15, patient apparently went into labor and had regular labor pains all

night, but in the morning they subsided, and there was no dilatation of the cervix; the child did not descend into the pelvis.

Upon examination we found a small-boned colored woman about 29 years of age, not acutely ill, but very uncomfortable due to some large mass inside the abdomen. Apparently the intestines were enlarged and full of gas in the upper part of the abdomen but no mass could be felt above the umbilicus. Immediately above



Skiagram taken December 30, 1933, lateral view

the symphysis the abdomen protruded forward at right angles to the body for about 10 inches. The skin was very taut and edematous and fetal movements could be felt as if they were directly under the skin. Upon vaginal examination the cervix could be reached only with difficulty, was found to be closed and not effaced. Even though pressure was made over the fetus it could not be crowded into the pelvis. Pelvic measurements were made and found to be within normal limits. A dull percussion note was found almost up to the level of the umbilicus and from there to the ribs the note was tympanitic. It was decided at this time that the patient was not at full-term and that she probably had a tumor obstructing the entrance to the pelvis which put the child in this unusual position. The possibility of a full-term abdominal pregnancy was considered but due to the rarity of the condition, such a diagnosis was dismissed as only a possibility. The family was advised that a cesarean section would probably be necessary but that this should be done when patient was nearer term.

She was given enemas of different varieties and a colon tube was inserted in the rectum in an effort to remove the gas from the distended bowels, but without success. Her family physician reported that instead of her abdomen growing smaller, it increased in size and the distension of the bowels increased. She had no trouble with bowel movements.

Examination December 29, revealed the abdomen had enlarged considerably and it was decided that she should be sent to the hospital for *x-ray* examination and probably delivery. The next morning an *x-ray* was taken, with the patient lying on her side, which showed a fully matured baby lying well up in the abdomen, back to the abdominal wall, its head against the mother's spine and its buttocks below the mother's umbilicus and overhanging the symphysis several inches. Believing that there was no likelihood of the child descending into the pelvis, cesarean section was decided upon. Feeling that we were likely to encounter unusual and serious complications during the course of this operation a second operating surgeon was called in consultation, with a view of ob-

taining his assistance with the operation. He advised against the abdominal route and thought an attempt should be made to induce labor, using cesarean section only as a last resort. An obstetrician was called in consultation and his advice was against an attempt at vaginal delivery and for cesarean section which was done on January 1, 1934.

The fetal heart tones were first heard deep in the left flank on December 29. They were strong and regular; the rate was 140. The next day they were only faintly heard, but inasmuch as they had only been heard on this one day, it was thought the baby had turned in such a position that they were not audible.

OPERATIVE RECORD

Abdomen was opened by a mid-line incision from just below the umbilicus to two inches above the pubis. Bag of waters was encountered immediately below the parietal peritoneum and covered by a coil of small intestine which had adhered to the membranes down to a line about two inches above the umbilicus. The intestine was stripped back, far enough to allow the opening of the membranes, which stripping caused considerable hemorrhage. A full term female child, dead, well developed and weighing 8½ pounds was delivered. Immediately a massive hemorrhage occurred from deep in the abdomen, apparently coming from the site of the placental attachment, which was controlled only with difficulty by means of packs. Palpation showed the placenta to be attached to the anterior surface of the uterus (which was pushed back and held against the spine) the mesentery of the small intestine and probably to the great vessels of the abdomen. The uterus was about the size of the normal uterus immediately after delivery. A pack of gauze was placed inside of the membranes making pressure over the placenta and apparently controlling the hemorrhage. The incision was closed for about one-half of its length.

The patient left the operating table in very poor condition and in shock. Although normal saline, blood transfusions and other stimulants were given she expired about ten hours after the operation. Autopsy was refused.

COMMENT

The interesting features in this case are:

(1) A condition so exceedingly rare that many physicians deny the possibility of its existence, and few ever actually see a case. This is the second case I have seen. I saw a similar case operated in the Charity Hospital in New Orleans about six years ago. The similarity of the history and physical findings in the two cases made us consider the final diagnosis as a possibility before operating.

(2) Due to the unquestioned skill and reputation of her attending physicians and surgeons during her former hospitalization, their diagnosis was accepted and not questioned. However, upon reading the hospital records, the history is most typical of a tubal abortion with the usual internal hemorrhage.

(3) The longitudinal axis of the fetus was from back to front, rather than from side to side, as is almost always seen in transverse presentations.

(4) The fetal movements were much more distinct than in the usual cases of intrauterine pregnancy, and the baby seemed to lie directly under the skin.

Diabetic Gangrene with Acidosis and High Non Protein Nitrogen Retention

H. E. MARCHBANKS, M.D., F.A.C.P.

Pittsburg, Kansas

Mr. R. A. R., a white American farmer 26 years of age, entered Mt. Carmel Hospital at 12:35 p.m. February 24, 1932, with the blood findings of diabetic coma; yet the patient was quite conscious.

The following history was obtained. On February 13, 1932, he had a "pimple" on his face which became infected after squeezing it with his fingers. On February 18, his face became swollen and he was quite sick. During the night, his physician was called to see him and to dress his face. Early the following night, February 19, about 11:00 p.m., he became unconscious. He, however, was out of bed walking about the room before the family realized that he was not aware of his surroundings. About 8:30 the next morning, he had his

first insulin after another physician had been called and found sugar in his urine. Within the next 15 hours, he was given 360 units of insulin, and within the following 24 hours he was given 205 more units of insulin. This brought him up to midnight of February 21. On February 22 and 23, he received only 15 units three times daily, and he was able to take six ounces of milk every two hours. His temperature had varied from 98° to 101° during the past four days. Pulse from 80 to 124. Kussmaul type of respiration on February 20 and 21, but more normal after that.

His past history revealed that sugar had been found in his urine in October, 1926. He took insulin for two years, after which he neglected both insulin and his diet, but had felt well until the infection started.

On entrance he was perfectly comfortable except for his neck. His respiration was not labored. His temperature was 98.2°, pulse 110, blood pressure, systolic 90, diastolic 60. He was well nourished yet not obese. Examination was not remarkable. The eye balls were soft and the pupils reacted sluggishly.

On the left side of the neck was a gangrenous area extending about 10 cm. along the edge of the jaw forming a triangle with the apex at the anterior part of the

TABLE 1

Date	Hour	Blood Sugar	CO ₂ Vol. Per Cent	N.P.N.
Feb. 24	12:30 p.m.	267 mg.	5.4	75 mg.
Feb. 24	6:00 p.m.		11.0	
Feb. 25	5:00 a.m.		16.8	78.9 mg.
Feb. 25	9:00 a.m.	71 mg.		
Feb. 25	11:00 a.m.	212 mg.	11.2	
Feb. 25	1:00 p.m.	236 mg.		
Feb. 25	4:00 p.m.	667 mg.	11.1	
Feb. 25	9:30 p.m.	43.6 mg.	9.1	
Feb. 26	5:00 a.m.	20.8 mg.	11.2	
Feb. 26	8:30 a.m.	50 mg.	16.8	
Feb. 26	11:00 a.m.	74 mg.	14.8	
Feb. 26	3:00 p.m.	91 mg.	14.8	
Feb. 26	8:30 p.m.	111 mg.	12.8	135 mg.
Feb. 27	8:30 a.m.	307 mg.	16.9	
Feb. 27	11:00 a.m.	182 mg.	14.9	
Feb. 28	10:30 a.m.	667 mg.	14.9	
Feb. 28	3:00 p.m.	444 mg.		
Feb. 28	8:30 p.m.	286 mg.		
Feb. 29	7:30 a.m.	250 mg.	8.1	150 mg.
Feb. 29	2:30 p.m.	143 mg.	11.4	
Feb. 29	8:00 p.m.	183 mg.	13	

TABLE 2
Insulin Given in Hospital

Date	Amount
February 24	390 Units
February 25	290 Units
February 26	32 Units
February 27	20 Units
February 28	110 Units
February 29	90 Units
March 1	30 Units

lower jaw. Very little pus was discharging from the edge of this gangrenous area. It was not possible to loosen this mass from the surrounding tissue. The rest of the examination was essentially normal.

The urine contained 3+ albumen and Benedict's test for sugar was red. The blood sugar was 26.7 mg. per 100 cc. of blood; CO_2 was 5.4 volume per cent, while the N.P.N. was 75 mg. per 100 cc. of blood. Hemoglobin 75 per cent; red blood cells, 4,730,000; white blood cells, 15,050; polys 88; 9 lymphocytes and 3 mononuclear leucocytes.

Variations in the blood sugar, CO_2 and N.P.N. from day to day, are shown in Table 1.

On February 29, hemoglobin was 60 per cent. Red blood count, 2,930,000.

This patient was not unconscious during his hospital stay and felt quite well at all times. His temperature varied from 98° to 101°, but usually below 100°. His pulse was never above 110 and respiration 24 or below.

The gangrenous area began to come loose in the evening of the 29th of February and by the morning of March 1 could be partially raised out of its bed in his neck.

On the morning of March 1 he had a severe pain in his left chest. His respiration was labored and he became cyanosed but after a few minutes, he was easier and seemed in fairly good condition. A few minutes before 5:00 o'clock that evening, he had a second attack of pain in his left chest and expired in a few minutes. Autopsy was not granted.

Our diagnosis on this patient was diabetic gangrene with coma and high N.P.N. retention. The final exit, no doubt, was due to a pulmonary thrombosis, perhaps from the gangrenous area or perhaps from the vein which I had used in giving glu-

cose. At any rate, I believe had this accident not occurred, that since the gangrenous area was loosening, and after death I was able to peel it out of its pocket, that he would have had a fair chance of getting back to normal.

This is unusual due to the fixation of the CO_2 at a constantly low level even with plenty of insulin, glucose, sodium bicarbonate and even a good general condition of the patient.

R

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

"Tuberculosis can be like an iceberg," says David A. Stewart, "only one-tenth visible and nine-tenths submerged." A recent study of 2,000 apparently healthy food-handlers in New York City calls attention to the presence of unsuspected cases and to the danger of this silent menace to others. Abstracts of the report of this study follow.

Tuberculosis Among Food-Handlers

In 1915 the Department of Health in New York City introduced a plan requiring food-handlers to obtain a certificate showing that they were free from infectious diseases in a communicable form. Physical examinations were limited at first to food-handlers in hotels, restaurants and other food-handling establishments, and later extended to include those who handled foods in hospitals, founding asylums and similar institutions.

SURVEY OF 2,000 FOOD-HANDLERS

Feeling that the method followed in examining food-handlers was open to question a survey was begun in 1932 of 1,000 apparently healthy food-handlers. Subsequently another group of 1,000 was similarly studied. These surveys had two objectives in view, namely:

1. To determine the incidence, extent and character of pulmonary-tuberculosis lesions in an average group of apparently healthy food-handlers.

2. To determine, if possible, what would be an effective way, in a community like New York City, to screen out those

cases of tuberculosis in food-handlers which might prove important sources of infection with tubercle bacilli.

The method adopted after some experimentation was to make:

1. A routine roentgenogram of the chest.

2. An examination of the sputum.

3. A physical examination of the chest of those in whom a pulmonary lesion was demonstrated by the *x*-ray.

Of the first group of 1,000 examined, 772 were men and 228 women. The total number diagnosed as tuberculous was 125 (12.5 per cent), and of these 109 had no diagnostic physical signs.

In the second group of 1,000 there were 473 men and 527 women, and a total of 112 cases of tuberculosis were discovered. The cases discovered in the two groups were classified as follows:

	First group	Second group
Healed childhood tuberculosis	73 cases	83 cases
Latent adult tuberculosis	16 cases	19 cases
Active pulmonary tuberculosis	36 cases	10 cases

While the proportion of women in the second group was larger than that of the first group the average incidence of lesions discovered did not vary much in the two groups. An important difference, however, appears in the active tuberculosis group, namely, 3.6 per cent for the first group and 1.0 per cent for the second. This conforms with the observation that pulmonary lesions are more common in adult males than in adult females.

CONCLUSIONS

The authors conclude, that the average incidence of active pulmonary tuberculosis lesions of food-handlers in New York City is approximately 2 per cent and they believe that this represents the average situation in all large urban communities. In New York City, with a food-handling population of more than 325,000, this percentage represents the existence of not less than 6,500 cases of unknown and therefore uncontrolled active pulmonary tuberculosis, to say nothing of thousands of cases of arrested tuberculosis, childhood type tuberculosis and pleurisy. Other conclusions are that when the question of tuberculosis is involved no physical examination of the chest is worth its name without the *x*-ray, and that progressive

pulmonary tuberculosis may exist without demonstrable diagnostic signs.

A Tuberculosis Survey Among 2,000 Food-Handlers in New York City, Martin, Pessar and Goldberg, Am. Rev. of Tuberc., Feb., 1934.

The impression that practically all adults react to the tuberculin test is largely responsible for neglecting the use of this diagnostic aid. In the adult a positive reaction is of limited value but a negative reaction rules out the presence of tuberculosis and is therefore extremely valuable. M. R. Lichtenstein in the February American Review of Tuberculosis discusses the value of the negative tuberculin test in adults.

Tuberculin Test in Adults

A prevalent conception is that a negative intracutaneous tuberculin test may occur in the presence of active tuberculosis. This idea is erroneous, since it has been shown that all cases of pulmonary tuberculosis react if concentrations up to 1 to 10 are used. The only exceptions are moribund patients, and these, as a rule, present no problems of diagnosis.

Another conception is that practically all normal adults react positively. This, too, is fallacious for while the percentage of negative reactors probably varies widely with the geographic locality it is enough to make the test worth while, and the percentage is probably increasing.

EXCLUSION OF TUBERCULOSIS IS IMPORTANT

The exclusion of tuberculosis becomes important in the diagnosis of the case of suspected early pulmonary tuberculosis with negative sputum, dubious *x*-ray and inconstant or slight physical findings. When such a patient undergoes months of observation and is told finally that he is an arrested case it places upon him the stigma of tuberculosis and leaves him with a dread of breaking down. All patients coming to the Municipal Tuberculosis Sanitarium of Chicago as suspected cases and not proved to be tuberculous by the preliminary study were given a tuberculin test. The intracutaneous test was used; the quantity injected for each test was 0.05 cc.; readings were made at 48 hours; O.T. was used at first, and later T.P.T. (Seibert). Testing was begun with 1/100,-

000, 1/10,000 and 1/1000 dilutions. If negative, the 1/100, and, after intervals of 48 hours each, if negative, the 1.10 and 1/1 or full strength solutions were injected.

Of the 162 patients tested 14 (8.6 per cent) were completely insensitive to all tests and were ruled out at once as non-tuberculous. Nine (5.6 per cent) reacted only to the stronger dilutions, but it is very probable from observation that they cannot have *active* tuberculosis.

Two main groups of patients present themselves as problems in diagnosis. First is the group with symptoms suggestive of early tuberculosis, but with negative or dubious physical and *x*-ray findings. Second is the group with physical findings or *x*-ray shadows and with few or no symptoms. Most of the patients in our tuberculin-insensitive series who came under the first heading were finally diagnosed as showing various sequelae of acute pulmonary infections, or subacute infections of other organs. Under the second heading most of the cases turned out to be bronchiectasis or cardiac disease. One of the latter group was an asymptomatic unilateral apical bronchiectasis sent in with a diagnosis of tuberculosis because of the apical rales and *x*-ray shadow. Although many of the patients discussed here were suspected to be non-tuberculous on clinical grounds, the clinching argument in *proving* them nontuberculous was the tuberculin test. Without the test a period of observation, probably of several months' duration, would have been necessary before the clinician could safely state that the patient had no tuberculosis.

TUBERCULIN TEST SHOULD BE ROUTINE

The test has value in private practice because it is helpful in those cases in which diagnosis is most difficult. Occasionally it solves quickly and decisively a problem in diagnosis which would never be solved otherwise. The intracutaneous test carried into the stronger concentration should be a part of the diagnostic routine of every physician who considers tuberculosis.

The Value of the Negative Intracutaneous Tuberculin (Mantoux) Test in Adults, M.R. Lichtenstein, Am. Rev. of Tuberc., February, 1934.

LETTERS FROM A KANSAS DOCTOR TO HIS SON

JOHN A. DILLON, M.D.

Larned, Kansas

My dear Boy:

We received your letter, also the bill for the instruments you have purchased. I wish I could afford something of this kind myself. Most of them are essential to your work, but I am under the impression some glib salesman put one over on you or me in regard to one or two of them. I believe the term gadget very aptly describes one of these high priced instruments. You will find it to be like this combination potato paring, cabbage slicing, carrot excavating contraption that is sold by clever spielers at carnivals, world fairs, etc. In the hands of the exhorter they are marvelous things and one can readily see how they might save the work of one hired girl in the kitchen; but the poor housewife usually throws them away after a few days trial or after slicing off the end of a perfectly good finger. I have purchased quite a number of these wonderful inventions after gazing in amazement at an open air exhibition of their virtues. I do not recall that your mother was ever able to make one perform properly.

Many surgical instruments are exhibited to doctors that work well in the hands of the voluble salesman in the office. Later, when they are tried out in the abdomen of a patient and two set screws and a coil spring come loose and jingle merrily among the intestines, the surgeon wisely decides that if he can recover the missing parts he will junk the machines. No operating appliance has yet been invented that will take the place of sharp scissors and knives, dexterous fingers, and a modicum of brains. The good surgeon will not use many instruments and if he has his way about it not many assistants. I have often wondered why it was necessary to assemble an operating room force of eight or ten white-robed, muzzled individuals to take out a poor little appendix that had never offended any one. I have also wondered just how much good is derived from witnessing this operation six rows back and standing directly behind a 220 pound full-

back. By reason of numbers in a class it is often necessary to park many members of the audience a considerable distance from the line of scrimmage. Should the operator not be in a talkative mood the hour is apt to drag wearily and slowly along. I can truthfully say some of the most profitless and tiresome hours of my life have been spent in operating rooms. There is only one place to get operating room surgery and that is right up along side old Dr. Carver himself. You will have this opportunity during your internship and you will especially have it while doing post graduate work and visiting some of our wonderful clinics in the United States.

The armamentarium of the young doctor of today is naturally much more complete and much more expensive than when I launched out. As I remember my paraphernalia consisted of a stethoscope, a thermometer, a speculum, a pocket operating set, and a few minor accessories. A six dollar and fifty cent medicine case was impressively carried alongside the cheap didy grip which contained gauze, bandages, chloroform, etc. There were no fancy zipper bags in those days and rubber gloves were undreamed of. We learned to improvise and use the things we had at our command. We learned to make bandages with starch instead of plaster paris and to saw off a bone in an emergency with a carpenter's saw. One of my most successful coups was to send a man on horseback four miles to a neighboring ranch to borrow the long tube from a baby's nursing bottle in order that I might catheterize a poor old nestor whose functions were out of commission. This neighborly courtesy was gladly extended by the baby and greatly appreciated by the patient and doctor. To show my appreciation the instrument was rapidly used and returned in plenty of time for the baby's next feeding.

We had no telephones nor automobiles and the doctor was compelled to devise many crude appliances in case of emergency. We tore up bed sheets to make bandages for our fractures and were often put to our wits end to devise splints and extension for these cases. Often some good neighbor volunteer was sent many miles back to town on horseback for something

that was urgently needed. And often these rides were made in below zero weather. Later when the buggy stove was invented which burned small carbon blocks we felt this was certainly the last thing in comfort and inventive progress. Today the doctor in his heated car drives 50 miles an hour and is back from his country call and on his second rubber of bridge before the old doctor would have been 15 miles on his way.

Somehow I cannot work up much sympathy for the present day doctor who complains of the dog's life he is compelled to lead. He probably belongs to a card club or two, a golf club and the Rotary club. He discourages night calls and the interne at the hospital keeps him posted on the progress of the maternity case. A good looking office girl diplomatically handles the office patrons and attends to the collections. Seldom does the doctor have to personally negotiate for a hog or crock of sausage in payment for his fee. He has at call trained specialists to whom he may refer troublesome problems and county hospitals on which he may unload the indigent. He spends no nights at country homes. He is never confronted with the problem of whether to sleep with the hired man in the granary or to take a chance with the six year old up stairs whom experience has taught him is a victim of enuresis nocturna. He has never been stuck in a snowdrift four miles from the nearest house at 2 a.m. and with one wheel of the buggy broken down. These things he has missed. But incidentally he has missed some of the blessings that the old doctor experienced. He has never had 15 or 20 tow-headed potential candidates for president of the United States named for him. He has missed the affection and loyalty that was the heritage of the old doctor. He has missed being the confidante and advisor of the family in affairs of finance, domestic troubles, and love affairs. The old family physician sooner or later became a smooth, foxy, prevaricator willing to lie and swear to it if necessary to protect an erring member or to prevent a break in the home. St. Peter must have had and still has many puzzling problems to solve in handing out justice to these

brazen offenders. Some way we feel that while he is administering a severe reprimand there will be a bit of twinkle in his eye.

Love,

DAD.

R

THE PHYSICIAN'S LIBRARY

A TEXT-BOOK OF HUMAN PHYSIOLOGY for College Students, by August Krogh, Ph.D., LL.D., Professor of Zoöphysiology in Copenhagen University, Copenhagen, Denmark. Revised and edited by Katherine R. Drinker, A.B., M.D., formerly Research Assistant in Applied Physiology, Harvard Medical School, and Managing Editor, Journal of Industrial Hygiene, Boston, Mass. 233 pages with 108 engravings. Lea & Febiger, Philadelphia. Price, cloth \$2.75, net.

This is a small hand-book of physiology written for the college student, but well adapted for special use by the medical student and the general practitioner. The descriptions are exceptionally clear-cut without being detailed.—H.M.B.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 17, No. 3. (Philadelphia Number—November, 1933.) Octavo of 326 pages with 59 illustrations. Per Clinic year, July, 1933, to May, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1933.

Epidemic Encephalitis Lethargica, by Dr. C. Dudley Saul: This clinic gives a history of encephalitis and the different epidemics occurring up to and including the St. Louis epidemic, classifies it into three different forms, gives the most common symptoms found and the treatment. *Bronchial Disinfection and Immunization*, by Dr. John A. Kolmer: In this clinic the author discusses different methods of treatment in cases of emphysema and pneumonitis. He finds that installation of a bactericidal fluid into the lungs and then coughed up by the patient gives very good results in clearing up the infection. He gives a table of various agents used and their bactericidal and spirocheticidal activity. *Multiple Sclerosis*, by Dr. M. A. Burns: Five cases of multiple sclerosis are presented. In each case it is shown that the causative factor most probably is infectious. Each of these cases was treated by hyperpyrexia, some giving very

good results, others not. *The Anemia of Pregnancy and Its Treatment*, by Drs. Harold W. Jones and Leandro M. Tocantins: The authors classify the anemias as simple, severe, and severe of the pernicious type and discuss the treatment, giving a dietary list, medications, and results in each type. *Personality Study and the Practice of Medicine*, by Dr. Edward Weiss: This clinic, to my mind, is well worth the purchase of the book. He discusses various cases of maladjustments in which the psychological diagnosis was entirely missed and various organs removed by the surgeon, and yet the patient did not improve. He claims that instead of there being only diseases of organs and cells, we should look upon the patient as an "organism as a whole" and make a psychosomatic diagnosis. *Quinine in the Pneumonias of Infancy and Childhood*, by Dr. Myer Solis-Cohen: In this clinic the author shows a mortality of 9.6 per cent in one thousand cases of pneumonia treated with quinine as compared with 20 per cent in two thousand controls. The dosage: infants six months of age or younger, one or two doses of 5 to 10 grains of dihydrobromide followed by doses of 2½ to 5 grains. This dosage is increased until those of sixteen years of age or older receive an initial dose of 30 grains followed by another dose of the same amount and then subsequent doses of from 5 to 15 grains. He claims that rarely do such massive doses give rise to deafness or cinchonism.

TREATMENT IN GENERAL PRACTICE, by Harry Beckman, M.D., professor of pharmacology at Marquette University, School of Medicine, Milwaukee, Wisconsin. Second edition, revised and entirely reset. 889 pages. W. B. Saunders Company, 1934; Philadelphia and London. Cloth \$10.00 net.

"Treatment in General Practice" has been entirely rewritten and is thoroughly up-to-date. It contains many new and approved treatments not found in other publications. Numerous subjects are discussed which were not included in the first edition. Printed on high-grade paper; large type; well indexed, and contains more than 40 pages of references. An excellent book for the library of every practitioner of medicine.—E.G.B.

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

Too many of us, in my opinion, neglect to attend the annual meeting of our society.

As so much of the success of what we hope to accomplish lies in the whole-hearted cooperation of our members, it appears to me the solution of many of our problems is dependent on each of us—individually and collectively.

Papers on a subject which is best adapted to our particular field may not always be read at our annual meetings but we can always learn something from a good paper on any subject.

The Sedgwick County committee in charge of the program have not yet completed their arrangements for the annual meeting but they will have much that will be of interest to all of us.

It is my hope that the outstanding program and the interesting reports on the progress being made in our profession will prove an incentive for each of us to make a special effort to be present at the annual meeting.

Yours Fraternally,

A handwritten signature in dark ink, reading "W. F. Bowen." The signature is written in a cursive style with a large, prominent "W" and "B".

President, Kansas Medical Society

Topeka, Kansas
February 20, 1934

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

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EDITORIAL

GAS GANGRENE

Gas gangrene is one of the most serious complications that may accompany punctured wounds or compound fractures. The disease was first described in 1853, but little consideration given to it in the years following. However, with the beginning of the World War, cases occurred in greater frequency, especially on the Western Front, and consequently increased opportunity was offered for thorough investigation. Although gas gangrene is not considered as a disease entity, deaths from this cause are showing an increase in Kansas, especially in recent years.

Originally, Welch's bacillus was considered as the sole cause, but further investigation proved the greater number of cases were due to one or more varieties of an-

aerobic organisms including *B. aerogenes capsulatus*, *B. perfringens*, *B. oedematiens*, *V. septique*, and occasionally some other anaerobic spore-forming organism. The growth and development of these organisms and consequently the virulence of the toxin, is favored by dead muscle tissue and the liquefaction of this tissue by certain proteolytic ferments. Close association of the anaerobic organisms is usually found with those of the aerobic type, especially *B. proteus*, *B. coli* and the *staphylococcus*.

Predisposing and local conditions which favor the development of gas gangrene may be grouped as follows¹: Predisposing—(1) Systemic, as in the more common types of infection; causes that diminish the powers of resistance, such as fatigue, loss of sleep, lack of nourishment. (2) Loss of blood with consequent loss of antigen bodies, as well as of other elements that ordinarily inhibit infection. (3) Shock, which causes a suspension of nervous activity and regulation. Local conditions: (1) Atmospheric conditions of heat and continued moisture or humidity. (2) The character of the soil. Thus soil that has been repeatedly fertilized contains large numbers of the specific organisms of gas gangrene. Fragments of clothing and of other material so contaminated and driven into the wound, together with similarly infected shell fragments, frequently cause gas gangrene. (3) Wounds involving the large intestine. Such wounds provide a means of exit for the specific organisms which are indigenous in this part of the intestinal canal. (4) Length of exposure. It is quite obvious that this infection is more common in neglected wounds than in those in which debridement is promptly done.

The disease usually begins in from one to four days after the injury, although Boland² states suggestive symptoms may

1. The Medical Department of the United States Army in the World War. Vol. XI, Part 1.

2. Boland, Frank; Gas Gangrene in Compound Fractures. Annals of Surgery, 90. pp. 607-613.

be noted as early as six hours. There is no dependable first sign and invasion is usually insidious. Important diagnostic signs and symptoms are: History of a recent injury; pain; rapid pulse; slight elevation of temperature; swelling of the tissues in which crepitus may be both felt and heard; a serosanguineous discharge from the wound which rapidly becomes unhealthy, and the expression of air bubbles from the wound. The discharge develops a typically foul odor even in the early stages of the disease. The edema causes both above and below the wound, a whitened appearance of the skin. The use of the x-ray may be of value in showing the presence of gas in the affected tissues.

Antitoxin is of definite value in the treatment, but dependence should not be placed upon it alone. Gas gangrene demands prompt surgical treatment, and consists in either excision of the infected areas or amputation. Excision is justified where the period of development is relatively long; the infection is near the tip of an extremity, and localized or spreading slowly; where no large joint has been opened or no fracture exists. Conversely, amputation is indicated where there is extensive laceration of soft parts; where several groups of muscles may be involved; where there is an extensive comminuted fracture; where gangrene is self-evident, and the symptoms of general toxemia develop early.

Debridement is of especial value in prevention. Wounds so treated should be left open and allowed to heal by granulation. If secondary closure is required it should be used after danger of infection has passed. A preventive dose of the combined antitoxin should be used.

To the prophylactic use of antitoxin during the World War was attributed not only a decrease in the occurrence of cases, but also in lessening the number of deaths. Debridement of all contaminated wounds,

however, is of especial importance. With the use of accepted methods in both prevention and treatment, the occurrence of cases and deaths in civil life will decrease just as they did during the war.

"OFFICER RESPONSIBILITY"

Each of the county or district societies has by this time elected officers for the year 1934. In accepting, each officer should have given most careful consideration to the duties and obligations of his office. Each officer is responsible to the members of his local society for the proper conduct of his office, and in addition all officers are responsible to the state society for the proper functioning of their local society. Editorially, the *Journal of the Oklahoma State Medical Association*¹ comments on the duties of county medical society officers:

"The President of a county society is, during his tenure of office, the head of organized medicine in the county and as such must conduct himself with the dignity due such a position. He presides at all meetings and is primarily responsible for their regularity and the programs presented. He will appoint such committees as may be necessary to carry on the work of the society, using his good offices to maintain harmony among its members, represent the society in any outside activity and use his influence to present organized medicine to the laity in its true light.

"The Secretary—here is the man with a job (not a position) and the success or failure of the county society is to a large extent in his hands. He must keep careful record of all business transacted; a record of membership and moneys received or expended. Usually it is his duty to give notice of all meetings and he may by his ingenuity be able to greatly stimulate attendance. Promptness in carrying on correspondence and insistence upon the prompt payment of dues with prompt remittance to the state secretary are of great advantage in the conduct of the

state office and will keep the county membership in good standing.

"To the Board of Censors is given the responsibility of maintaining a high standard of membership; all applications come before this committee as well as all charges that may be preferred against a member and these matters must be judged with all fairness, keeping ever in mind the high calling of the medical profession and the desire of organized medicine to admit all who are qualified. It is a bad plan to elect an applicant to membership to reform him."

The writer of the above stated he had written nothing new; his purpose was to remind them of a few well known facts. Certainly, by keeping such facts in mind, all officers may serve their respective societies during the year 1934 with success.

EDITORIAL COMMENT

Professional cards of pharmacists in several cities appear on page viii.

The first of a series of announcements by Johnson & Johnson will be found on page 119.

The Sackett Laboratories, Kansas City, Kansas, have contracted for a series of twelve announcements in the JOURNAL.

The United States Department of Agriculture reports hemogenization of milk softens the curd and increases its digestibility.

During the year 1933, 526 physicians completed their credits in the National Board of Medical Examiners by passing Part III.

Income tax reports for the year 1933 must be filed with the Income Tax Department, Kansas State Tax Commission, not later than April 1, 1934.

There are approximately 800 known lepers in the United States and of this number, 354 are under treatment at the National Leper Home, Carville, Louisiana.

The Los Angeles County General Hospital was opened for occupancy on December 12, 1933. It is reported to be the largest hospital in the world; 18 stories high and has beds for 3,500 patients.

The total of automobile accident deaths reported in Kansas in 1933 was 491; the

death rate, 25.9 per 100,000 population. The 1933 total exceeds by 31 deaths the previous high total reported in 1930.

Among the 11,737 malignancies treated at the State Institute for the Study of Malignant Diseases in Buffalo during a period of 20 years there were 242 cases of cancer of the bladder—an incidence of two per cent.

Dr. Bradford Hill speaking before the Royal Statistical Society in London on Mortality from Whooping Cough, showed a greater incidence and mortality among females under one year of age than among male children.

Statisticians of the Metropolitan Life Insurance Company report almost an entire year has been added to the general average duration of life by the successful battle against tuberculosis, during the decade 1920 to 1930.

The *New York State Journal of Medicine* has called attention to the fact that a pharmacist must not only fill a prescription correctly, but if he is not certain as to the exact meaning of a prescription, he must inquire from the prescribing physician. The comment was based on a recent court decision.

At the recent meeting of the Association for the Advancement of Science, Dr. John Jacob Abel, director of the laboratory of endocrine research at the Johns Hopkins University School of Medicine, reported the toxin of tetanus is carried to the brain and spinal cord by the blood.

The first of a series of twelve commercial announcements by the W. E. Isle Company, Kansas City, appears in this issue of the JOURNAL. Mr. Isle has been engaged in the artificial limb business for the past 28 years, and since 1920 has specialized not only in prosthetic but orthopedic appliances as well.

For the lectures to be given April 2 and 3, 1934, provided by the Porter Foundation, the University of Kansas School of Medicine has selected Richard E. Scammon, Ph.D., Dean of Medical Science at the University of Minnesota. The Annual Post Graduate Clinics have been arranged for April 2, 3 and 4, in order that physicians in attendance may also hear Dr. Scammon's lectures.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

Rabies

Rabies is a disease, common to all countries except England, where all dogs must be muzzled. The common name for rabies is hydrophobia, meaning the dread of water. This dread of water is a result of paralysis of the muscles of deglutition, the animal making repeated attempts to drink, invariably has another muscular spasm of these muscles.

Through ignorance or excitement, many correct diagnoses of infected animals cannot be made. A diagnosis of the disease in the animal is made through staining and finding certain inclusion bodies, called Negri bodies. These substances are present in the brain of infected animals but frequently the head is unsatisfactory for examination, due to shooting through the brain or beating it over the head with a club. Each peace officer should be instructed, when called to handle a case of suspected rabies: "Be sure that you shoot the animal through the body and not through the head." Much better than shooting, would be to rope the dog and put it in a pen, for further observation; the majority of cases can be diagnosed by the action of the dog. These actions are frothing from the mouth, irritable actions, progressive paralysis of the limbs and inability to drink.

It is my opinion that cities should have ordinances that will require all dogs to be either muzzled or to have prophylactic treatment which consists of one hypodermic injection. I have used this on several of my own dogs and have never observed any untoward results.

The incubation period of the ordinary type of "street rabies" varies from one to two months. There have been many cases reported six months after possible infection and one case, two years after inoculation. The incubation period is shorter where the face is the site of the infection, due to absorption through the peripheral nerves.

The first symptoms in man are a slight hyperemia or congestion around the

wound, followed by a mental depressive state; later the same characteristic symptoms as found in the animal. After the disease has developed treatment is of no value.

The diagnosis of rabies is usually made through finding of inclusion bodies (Negri bodies) in the ganglion cells and other large nerve cells. Necrosis of the brain, trauma and certain chemical preservatives interfere with the examination. The head should be severed a few inches back of the ear; packed in ice and sent to the nearest laboratory. Failure to find inclusion bodies does not exclude rabies and should be followed with injection of an emulsion of a portion of the gray substance of the suspected animal, into the brain of a rabbit. Treatment should not be delayed until this procedure can be carried out, if the animal showed any suspicious symptoms.

Prophylactic virus is so well accepted that there is no object in presenting the subject, except to mention that the manufacture of this virus is under government supervision and the 14 dose treatment set is accepted now as being of equal value to the 21 dose treatment. For children, the total number of treatments is the same as for the adult but the individual dose is decreased in proportion to the age; usually they are given approximately one-half the adult dose.

It is well to remember that animals other than dogs may be rabid and capable of transmitting the disease. Animals observed in this class are the horse, cow, squirrel, rabbit, coyote or skunk; in fact any animal may be capable of transmitting rabies.

Physicians who have used toxoid furnished by the state board of health and have not submitted the names of children immunized are requested to forward the list at their earliest possible convenience. These lists will be used to show the Budget Director and the House Ways and Means Committee the need for continued appropriations for purchase of toxoid.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

A REVIEW OF UROLOGIC SURGERY

The attention of the readers of this column is called to an excellent review of urologic surgery written by some outstanding urologists from all over the United States which appeared first in the December number of the Archives of Surgery and in the January number and is to be concluded.

DRUG ERUPTION

The author reports a case of a man with lupus erythematosus for which he was given intravenous injections of gold sodium thiosulphate at intervals of a week with a beginning dose of 5 mg. and increasing up to 50 mg. With this the patient developed a dermatoses and when the treatment was stopped the rash cleared up. After a rest period of several months he was given intramuscular injections of bismuth salicylate and developed almost an identical sort of rash. Attention has previously been called by various writers as to skin eruptions associated with bismuth but this case was particularly interesting because of the identical toxic reactions of both gold and bismuth salts. It is the author's opinion that these reactions are not specific for gold or bismuth but rather a group reaction that can be caused by any heavy metals.

Drug Eruption. Rattner, Herbert. Archives of Dermatology and Syphilology, 28:820-822. December 1933.

SHOULD FUSOSPIROCHETAL INFECTIONS BE TREATED WITH ARSENICALS?

Doctor Smith of the Department of Medicine of Duke University School of Medicine comes out with a very pronounced endorsement of the use of arsenicals in the treatment of fusospirochetal organism infections. He reviews the literature very thoroughly showing a great variation in opinion about this but cites cases of his own of Vincent's angina which were made worse by mercury but improved with intravenous arsenicals, likewise cases of severe Vincent's angina in children, chronic trench mouth, post-operative pulmonary infections and pulmo-

nary abscesses. His conclusion is that the use of intravenous injections of neoarsphenamine or sulpharsphenamine is the most effective treatment for the more severe and chronic infections with fusospirochetal organisms. He believes in every instance that local treatment should be tried and if it is not successful he relies on the arsenics apparently with very good success.

Should Fusospirochetal Infections be Treated with Arsenicals? Smith, David T., Archives of Otolaryngology. 18:760-769. December 1933.

DIAGNOSIS AND TREATMENT OF FRACTURED SKULLS

The authors present the study of 347 cases of cranial and intracranial injuries seen at Harlem Hospital. These cases were divided into (1) proved fractures of the skull and (2) proved intracranial injuries. The diagnosis of fracture depended upon definite roentgen or definite postmortem findings. Blood in the spinal fluid in the cases that lived and autopsy findings in those that died established the diagnosis of intracranial injury. The writers warn that the diagnosis of skull fracture should never be made unless its existence is proved by x-ray or is seen, as is possible in compound fractures and at operations. The clinical diagnosis of intracranial injury should be made only after blood cells are found in the spinal fluid.

In the group studied the ratio of men to women was 3 to 1. About 21 per cent of the adult patients died, over half of them within the first 12 hours after injury. Death after 48 hours was usually due not to the laceration of the brain but to complications such as meningitis, hypostatic pneumonia, exhaustion, etc. Of 28 children under ten years of age only one died, an infant of two months; this indicates that the prognosis for life in craniocerebral traumatism is better in children than in adults.

Lacerations are the most common pathologic findings and the clinical symptoms are due to hemorrhage rather than to the laceration itself. Cerebral edema was not always present and was usually a secondary factor in the illness.

Conservative non-operative treatment was used which consisted of rest in bed, good nursing and maintenance of nutrition. Intravenous injections of hypertonic

solution of dextrose were abandoned because of the high death rate following their use; lumbar drainage was used in 15 cases and the authors advise against this procedure. Barbitol and amytal were employed with good results in allaying excitement due to cortical irritation. In two cases avertin was used to advantage. Patients in a state of shock were given fluids by mouth and by hypodermoclysis; they were kept warm and suction was used to keep the throat clear of blood and mucus. Unconscious patients were nourished by means of duodenal feedings and nutritive enemas.

All patients with compound depressed fractures, some with simple depressed fractures and those with epidural hemorrhage were operated upon. The authors conclude that the non-operative treatment of fractured skulls is the best known today.

Diagnosis and Treatment of Fractured Skulls. Wright, Louis T.; Greene, Jesse J. and Smith, David H. Archives of Surgery. 27:878-896. November 1933.

BATH TREATMENTS IN MENTAL DISORDERS

The writer gives the progressive European attitude with regard to the treatment of mental illness in which he stresses the combination of having the patient attend a spa away from his relatives and even if necessary in that part of the spa given over to nursing and sanitarium care. It is essential that there be a combination of the bath treatments (of which he gives some specific suggestions for various types of mental illnesses) along with psychotherapy. He emphasizes particularly the necessity of using psychotherapy and not depending entirely on any physical measures to treat what is purely a mental disease.

Psychoses and Neuroses at the Spa. Löwy, Prof. Dr. Max. Archives of Medical Hydrology. XI: 192-196. November 1933.

PERSONALS—NEWS ITEMS

Oberlin: Dr. Eber Reeves has been named as health officer of Decatur County.

Prairie View: Dr. C. E. Long has removed to Norton where he will continue his practice.

Lansing: Dr. Robert H. Moore, who recently resigned as prison physician, has located in Leavenworth.

Topeka: Doctors George H. Allen and Paul E. Belknap are recovering. Both have been ill and under treatment in a local hospital.

Strong City: Dr. Charles McKinley has been appointed physician at the state penitentiary, vice Dr. Robert H. Moore, resigned.

Topeka: Dr. Milton B. Miller attended the Sectional Meeting of the American College of Surgeons at Oklahoma City, Oklahoma, February 22 and 23.

Kansas City: Dr. C. C. Nesselrode addressed the sectional meeting of the American College of Surgeons, at Oklahoma City, on February 22-23, on the subject: "Hyperinsulinism—A Surgical Problem."

Kansas City: The spring medico-military symposium under the auspices of the Kansas City Southwest Clinical Society and the Medical Department, Seventh Corps Area, U. S. Army, will be held at the General Hospital in Kansas City, Missouri, March 12-17, inclusive. Members of the Wyandotte County Society who will appear on the program include: Doctors Hugh Wilkinson, P. M. Krall, Fred Angle, L. G. Allen, C. J. Mullen, Lewis W. Angle, O. W. Davidson and C. C. Nesselrode.

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DEATH NOTICES

BLESH, L. A., Oklahoma City, Oklahoma, aged 68, died February 20, 1934, of cancer of the lung. He was chief of staff of Wesley Hospital. Dr. Blesh practiced for a number of years at Hope and Lost Springs, Kansas.

DEMOTT, CHESTER WILMONT, Independence, aged 58, died January 1, 1934, of carcinoma of bowel. He graduated from Rush Medical College, Chicago, in 1901. He was a member of the Society.

FUSON, FRANK B., Larned, aged 74, died February 4, 1934, of general sepsis following an infection of the face. He graduated from Missouri Medical College, St. Louis, in 1886. At the time of his death he was Assistant Superintendent of Larned State Hospital and a member of the Society.

HUDSON, JOHN FRANCIS, Olathe, aged 88, died January 11, 1934, of chronic nephritis. He graduated from Pulte Medical College, Cincinnati, in 1885. He was not a member of the Society.

NEAL, GEORGE LAFAYETTE, Garden City, aged 98, died January 19, 1934, of chronic nephritis. He graduated from New York University Medical College in 1858. He was not a member of the Society.

ORELUP, CHARLES EDWIN, Lawrence, aged 74, died January 23, 1934, at Norton Sanatorium, of pulmonary tuberculosis. He graduated from Kentucky School of Medicine, Louisville, in 1892. He was not a member of the Society.

POPE, BOYD HENDERSON, Kingman, aged 57, died January 7, 1934, of injuries received in an automobile accident. He graduated from Washington University School of Medicine, St. Louis, in 1906. He was a member of the Society.

SCARBOROUGH, HEBBERT VIRGIL, Lyons, aged 57, died January 1, 1934, at Norton, of thrombosis of pulmonary artery. He graduated from State University of Iowa College of Medicine, Iowa City, in 1902. He was a member of the Society.

COUNTY SOCIETY NEWS**ALLEN COUNTY MEDICAL SOCIETY**

The Sisters of St. John's Hospital entertained the Allen County Medical Society and out of town guests at a six o'clock dinner in the hospital on February 6, 1934.

Dr. R. R. Nevitt, Moran, president of the society, presided. Dr. E. A. Gempel, Kansas City, was the guest speaker and spoke on the subject of "Obstetrics and Their Management."

Visiting physicians included: Doctors A. G. Turner and T. A. Hood, Garnett; Joe Henning, Westphalia; L. J. Brennen, Greeley; H. W. West and A. C. Dingus, Yates Center and P. W. Waugh, Iola.

C. B. STEPHENS, M.D., Secretary.

ANDERSON COUNTY MEDICAL SOCIETY

The Anderson County Medical Society held their annual meeting at Garnett, December 27, 1933. The meeting included each member of the society and wife and

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several guests, including Dr. and Mrs. L. F. Barney, and Dr. J. F. Hassig and daughter, of Kansas City. Dinner was served in the dining hall of the Methodist Church and plates were laid for 36 persons.

After the dinner a recess was taken and the county society met and elected officers for 1934: J. R. Hemming, Westphalia, president; C. B. Harris, Garnett, vice president; J. A. Milligan, Garnett, secretary and treasurer, and T. A. Hood, Garnett, delegate.

Following the business meeting, President J. W. Helton called the meeting to order and introduced Dr. L. F. Barney whose subject was "Medicine, Then and Now." He discussed the methods and treatment of both medical and surgical diseases 50 years ago to the present time. His address was very interesting to the medical profession and visitors present. Following Dr. Barney's address, Dr. Hassig talked on public health work and the method recommended by the American Medical Association of the treatment during the depression. His talk also was very interesting.

J. A. MILLIGAN, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The regular meeting of the Clay County Medical Society was held in the class room of the Nurses' Home at the Clay Center Municipal Hospital on the evening of February 14, 1934. This being the second meeting of this year and the weather fine, a large number of the members from outside places as well as those from Clay Center attended.

The minutes of the preceding meeting were read and on the order of President Croson, there being no corrections, were approved as read.

Dr. Croson, Chairman of the FERA Advisory Board, stated there was nothing new to report from that committee. In fact he stated that his letters to the Chief for Kansas had not been answered. There was quite a liberal discussion of the problems of the FERA and the physician.

There being no other business to transact at this meeting, the scientific program was the next order.

The first paper was presented by Dr. G. W. Bale, of Clay Center, on the subject of "Trichomonas Vaginalis." This paper was a very excellent presentation on a common but much overlooked condition. The discussion that followed was instructive, and many points of interest, especially regarding the different methods of treatment, were mentioned.

The second paper was read by the president of the society, Dr. F. R. Croson, of Clay Center, Kansas, on the subject of "Acute Intestinal Obstruction." This was also an able presentation of a very common as well as a very difficult subject to present in one paper. The discussion was very general, and many questions were asked and answered.

As a whole the program was a very interesting and instructive one.

E. N. MARTIN, M.D., Sec.-Treas.

CLOUD COUNTY MEDICAL SOCIETY

The first meeting of the Cloud County Medical Society in over two years was held February 5, 1934, at the Barons Hotel in Concordia and 15 physicians were present: Doctors Townsden of Jamestown, Newton of Glasco, Antony and Clark of Clyde and Anderson, Danielson, Haughey, Kiene, Kinnamon, Kosar, Martin, Porter, Starr, St. John, and Weaver of Concordia. Dr. A. M. Townsden, retiring president, presided.

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Dr. W. B. Newton was elected president, Dr. J. M. Porter, secretary, and Dr. R. E. Weaver, treasurer. Doctors A. D. Danielson and H. H. Miller, both of Concordia, were admitted to membership, the entire society acting as a board of censors. Dr. Otto Kiene was elected delegate to the state meeting, with Dr. L. E. Haughey as alternate. The newly elected president appointed a committee to look into the proposal of the Federal Government to pay part of the medical care of CWA workers and their families. The remainder of the meeting was devoted to a discussion of this proposition. The business meeting was preceded by a dinner.

Dues for active membership have been collected to date from all the 15 men present at the meeting and from Doctors E. N. Robertson and H. H. Miller of Concordia and W. R. Palmer of Glasco. This makes a total of 18 active members. The total for the profession in the county in active practice at present is 23 and one of these is a member of the Clay County Society as more convenient to him than our society. We consider this a good start and intend to keep the organization active.

J. M. PORTER, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The Shawnee County Medical Society held its regular monthly meeting at the Hotel Jayhawk, February 5, 1934. Dr. Guy A. Finney, president, was in the chair.

Dr. Arthur E. Hertzler, of Halstead, was the guest speaker and his address was on "Present Trend in Goiter Treatment." His discussion was most interesting and

was the basis for many comments and questions by those present.

Dr. L. F. Steffen of St. Marys was elected to membership.

The total attendance was 97. Visiting physicians included: Doctors J. Leonard Dixon, Clay Center; R. B. McVay, Linn; H. L. Chambers and J. B. Henry, Lawrence; C. W. Reynolds and C. A. Wyatt, Holton; Barrett Nelson, Manhattan, and J. M. Scott, Lebanon.

EARLE G. BROWN, M.D., Secretary.

WASHINGTON COUNTY MEDICAL SOCIETY

The Washington County Medical Society meeting was held at the Washington Hotel, February 13, 1934, at 6:30 p. m. Preceding the program, a dinner was served.

Dr. H. D. Smith read a paper, "Infantile Eczema," and Dr. W. C. Burnaman discussed "Treatment of Pneumonia." Both papers were very interesting and were freely discussed.

Dr. V. J. Wall moved and seconded by Dr. Burnaman, that Dr. C. H. Miller, formerly of Morrowville, but now in the Veteran's Hospital at Lincoln, Nebraska, be given an honorary membership in our society, and also to extend our regrets, that he is not among us at present. This motion carried unanimously.

The next meeting will be held March 13, at the LeRoy Hotel, in Hanover.

DONALD A. BITZER, M.D., Secretary.

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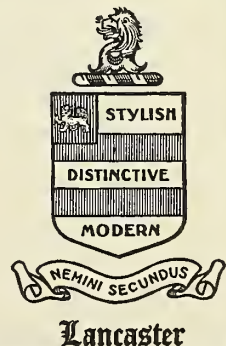
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Buhler: Dr. and Mrs. P. S. Loewen, January 31, 1934; a daughter, Anna Ruth.

Hays: Dr. and Mrs. W. M. Brewer, January 18, 1934; a daughter, Joy Louise McAdams.

Kansas City: Dr. and Mrs. W. C. Curren, January 2, 1934; a daughter, Mary Margaret.

Topeka: Dr. and Mrs. B. I. Krehbiel, January 14, 1934; a daughter, Cynthia.

—R—

KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

All counties were represented except Cowley and Labette at the board meeting held in Wichita this month. Mrs. J. B. Carter and Mrs. Alfred O'Donnell, Central Kansas; Mrs. W. G. Emery, Brown County; Mrs. E. C. Duncan, Wilson County; Mrs. Henry Tihen, Mrs. Milton O. Nyberg, Mrs. Wilfred Cox and Mrs. E. J. Nodurft, Sedgwick County; Mrs. F. W. Shelton, Montgomery County, and Mrs. H. L. Stelle, Crawford County, were here. The board members who were guests of the Sedgwick County Auxiliary at their regular dinner meeting on February 13, wish to thank all ladies having a part in this most successful and pleasant meeting. Everything was unusual even to the Valentine flowers.

The business meeting of the board was instructive and a great deal of business was transacted. The board owes a debt of appreciation to Mrs. J. B. Carter, Mrs. J. T. Hunter and Mrs. McVey for the revision of the constitution and by-laws presented. It was recommended by the board that they be accepted and presented to the K. M. A. at their regular meeting for adoption. A report was received from each chairman of the standing committees and they are all doing a nice piece of work. The nominating committee was elected as follows: Mrs. E. C. Duncan, Mrs. J. B. Carter, Mrs. Lawrence, Mrs. Wilfred Cox, and Mrs. H. L. Stelle.

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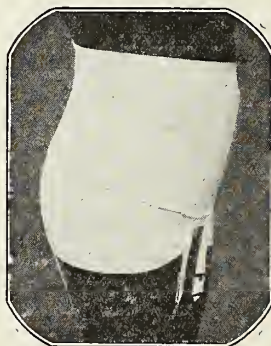
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Mrs. Henry Tihen gave a brief outline of plans for the state meeting and they sound very interesting. She and her committee are hard at work on these plans and I feel sure we are soon to experience the best convention in the history of the Auxiliary.

Our year is nearing its close for membership dues. They should be in to the state treasurer by March 1, so see that they are sent immediately. We could allow you till March 15 but national dues must be in to the national treasurer by March 31, so we cannot wait one minute after March 15.

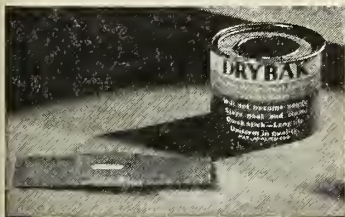
Have you kept your attendance record as I asked you to do in a previous News Letter? Do you have your history in? Mrs. W. G. Emery must send the entire state history to the national historian in just a few days, so please attend to this if you have not.

Mrs. E. J. Nodurfth and Mrs. E. C. Duncan left Wichita, February 22, to visit the

Brown County Auxiliary. These two energetic ladies have been instrumental in organizing several new auxiliaries this year.

Mrs. Nyberg, Mrs. Cox and Mrs. Nodurfth, of Wichita, were honor guests at a tea given by Mrs. Herman Mercer, February 1, at Arkansas City. The Cowley County Auxiliary was organized at this time with Mrs. Mercer as temporary president and Mrs. E. A. Tufts as temporary secretary. The permanent auxiliary was to have been completed by February 15; as we go to press we have had no further report. However, accept our congratulations, Cowley County, and may you be ever successful in your undertakings.

Sedgwick County, always up and doing, submits the following report by Mrs. Hal E. Marshall: "Subscriptions to *Hygeia* have been sent to 25 schools in the county. The plan is to inaugurate an essay contest among the children who attend schools in which *Hygeia* is received regularly.



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You wives who have missed reading the *Bulletin of the American Medical Association* should remedy the lapse immediately. There are some splendid articles in the *Bulletin* and the Auxiliary is always well represented.

Are you planning to go to the annual meeting of the American Medical Association in Cleveland, June 11-14? There is an interesting discussion of plans by Mrs. James Blake in the December issue of the *Bulletin*.

Publicity Chairman: Please forward your reports before the twentieth of each month to your state chairman, Mrs. J. T. Hunter, 1231 Clay Street, Topeka, Kansas.

TRUTH ABOUT MEDICINES

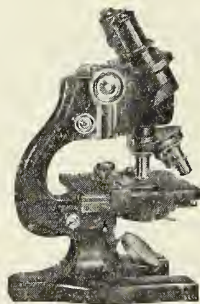
In addition to the articles enumerated in our letter of January 4 the following have been accepted:

Fairchild Bros. & Foster—Soluble Stomach Extract (Fairchild).

Gilliland Laboratories, Inc.—Rabies Vaccine—Gilliland (Semple Method), 14 vial package.

Hynson, Westcott & Dunning—Ampules Solution Antimony Thioglycollamide, 0.4 per cent, 10 cc. Am-

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ORIGINAL ARTICLES

THE TREATMENT OF PERNICIOUS ANEMIA*

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The fundamental requisite for successful medical assistance to patients suffering from pernicious anemia is intelligent cooperation by the patient as a result of education by his physician. This is true of many chronic diseases but is especially true of diseases due to the lack of some intrinsic or extrinsic factor or mechanism, such as diabetes, myxedema, hypoparathyroidism, or chronic cardiac disease. The essential thought to convey to the patient is that he can not tell by the way he feels whether or not he is well. This fact is evidenced by our inability to predict our blood sugar or our blood count by our sensations unless the departure from normal is extreme. This presenting concept is associated with two others, namely that the disease state is permanent, hence return to health by adequate replacement therapy does not mean that such therapy has become unnecessary; and secondly, that incomplete replacement therapy allows the pathologic results of the disease to be produced.

These three elementary truths are appreciated as a matter of course by the physician but they are directly opposed in the minds of the non-scientific patient by natural human sentiment expressed in the colloquial phrase, "Oh, I feel all right." Even if the patient honestly feels all right his health may not *be* all right. It is the natural human reaction, more-

over, to want to put trouble behind one so that when the doctor's therapy has produced health the patient instinctively thinks that his troubles are over forever, that "I am all right now." Finally, the phrase "I feel one hundred per cent" unfortunately may be made by the patient who actually is only 70 per cent and who, fortunately for his peace of mind, but not for his future health, does not feel the slow advance of degenerative processes in his body.

These kindergarten A-B-C's apply especially to the management of pernicious anemia both generally and specifically as to the choice and use of replacement materials. It is of secondary importance whether one uses whole liver by mouth, either cooked or raw; liver extract—dry, liquid, refined, crude or hydrolyzed; or solutions for intramuscular, subcutaneous or intravenous administration. The primary requisite is that the patient be convinced that he must have a careful, complete blood measurement at regular intervals under the direction of his physician. Any of the varieties of replacement therapy mentioned is satisfactory if taken at a sufficient rate, that is, enough per day or week or month, to keep the blood entirely normal. There is no way of the patient or the physician knowing that this is so except by laboratory test. This procedure should be done once a month continuously.

It is important to realize that pernicious anemia is associated with or produces pathologic changes of major importance in many tissues throughout the body. It is quite different from most other anemias. The primary pathology is in the gastrointestinal tract. The stomach, of course, exhibits achlorhydria and at autopsy shows evidence of mucosal and submucosal inflammatory infiltration. There is some atrophy but the

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studies of Faber indicate that the inflammatory process is primary. The lack of acid produces motor disturbance in gastric and intestinal function as a result of dumping of the stomach so that diarrhea is a common symptom. Glossitis and glossodynia are common but not regular occurrences. The liver is the seat of parenchymatous degeneration and increased reticulo-endothelial action so that free fat and free iron are found. The heart also shows a characteristic degeneration. However, the most vital changes occur in the central nervous system. Ninety per cent (Weil) of autopsies in pernicious anemia show pathology in the central nervous system. The initial lesion is a degeneration of the white matter occurring in small areas, the so-called Lichtheim plaques or Lukenfelder fields of holes. These are often first located in the lower thoracic cord in the posterior columns; they may progress in an annular manner encircling the cord and involving the anterolateral columns, and then spread up and down the cord. The myelosis of the medullary sheaths is thought to be the first stage of the degeneration, axone involvement following. The brain shows plaques in the medullary substance of the cortex. The anterior and posterior spinal nerve roots and the peripheral nerves often show marked degeneration; the process in the peripheral nerves also begins in the myelin sheaths. The fibers carrying touch, position and vibration have more myelin so that their nutrition is earlier affected than the pain fibers that are better nourished and rarely involved.

The treatment, then, of pernicious anemia involves not only elevation of the blood to a state of efficiency as a circulating respiratory medium but the protection of the body from the degenerative processes mentioned, the most vital of which occur in the central nervous system. This introduces the problem of the relation of these pathologic changes to the anemia. The simplest view is that they are not causally related to each other but are independently the result of deficiencies of diet or of intermediary metabolism which constitute the cause of

the disease as a whole. Thus, it is stated that this form of central nervous system disease may be present for years before pernicious anemia is evident, and conversely, that the anemia may be prolonged and severe before the cord is involved. I think that both statements require modification, namely qualification as to the degree of subordinate disease. For instance, in a report from England in 1929, Ungley and Suzman studied 61 cases of subacute combined degeneration of the cord with achlorhydria. Of these, 90 per cent had a definite, if slight, degree of anemia when first observed. And, if it is realized that the anemia of pernicious anemia is constantly waxing and waning whereas the cord changes are more fixed, it is highly probable that the remaining 10 per cent were anemic at some earlier period.

This question of the causal or coincidental relationship of the blood state and the spinal cord pathology is unimportant and academic from an immediate practical point of view, but an important fact is deducible from a study of it, namely, the blood condition is the only useful *guide* which the physician has as to whether or not his patient is fully protected. Thus, we now believe that if the blood is kept entirely normal or above normal that the associated degenerative changes in the stomach, tongue, liver, heart and most vital of all, in the brain and spinal cord, will be *prevented*. An immediate objection to this will be made by those who have put patients on liver with excellent effects on the blood but with no control of advancing cord changes. This would certainly seem to indicate that the liver would not control the spinal cord degeneration.

I have had several such confusing cases. For instance, Mrs. C.F.S. was known to have had pernicious anemia since February, 1926. She began to take liver in November, 1927. It is interesting that she took liver faithfully as ordered but not in sufficient amounts to maintain a normal blood count until January, 1929; until August, 1929, she had had no neurologic symptoms. For 10 months she

had neglected to take liver regularly and from July to October, 1929, she had taken none. She was then strongly urged to restart it because of the onset of neurologic symptoms, and she had a satisfactory hematopoietic remission; the blood counts during October, November, and December, 1929, and January, 1930, were approximately 5,000,000. She died of lobar pneumonia in March, 1930. During this final blood remission the neurologic symptoms, which had already *begun during anemia* steadily increased. *Ataxia* developed; Romberg's sign was positive; the reflexes were normal; there were paresthesias of numbness, stiffness and cold, but pain and vibration tests were normal.

In these cases neurologic symptoms appear when liver is not being taken and fail to disappear when it is resumed. My experience, which I think is now general, is that the converse, however, does not occur, namely the appearance of neurologic symptoms if sufficient liver is being taken. How much is sufficient? Answer: Enough to keep the blood supernormal. Is this amount the same at all times and in all cases? Answer: No. In the individual case the occurrence of an infection, especially if chronic, or excessive fatigue, or arteriosclerotic disease, may produce an anemia in spite of amounts of liver formerly adequate. In such circumstances the amount of liver or extract should be doubled until the blood rises above normal. The explanation of the continued advance of central nervous symptoms during liver-induced remission is simply that the cord injury produced during relapse takes longer to reach a quiescent state than the blood regeneration. In these cases the amount of liver is not concerned—only the resulting blood count. Over a period of years those cases that had high counts consistently did not have any progress of symptoms while those, like Mrs. C.F.S., who for one reason or another did not have normal counts suffered from increased destruction of the spinal cord.

This brings us to the study of the blood in pernicious anemia and the recognition

of normal standards. As regards the red blood count, if I had pernicious anemia I would want my count held constantly above five and one-half million. There is a tendency to regard counts between four and five million as adequate or normal. It is evident to me that a count of four million is 20 per cent or more below normal, and taking this as an indication of the replacement of the deficiency it represents a 20 per cent deficiency in replacement therapy. As I stated at first, the patient can not tell by his feelings whether his or her count is four or five million, so that the additional therapy must be given in the conviction that insufficient treatment leaves the patient exposed to spinal cord degeneration. The hemoglobin should be from 15 to 16 grams per 100 cc. of blood, or 100 per cent by the Dare and Sahli standards. The Williamson (or Newcomer) standard of 16.92 or practically 17 grams is probably too high, although eventually it may prove to be correct. One thing that happens quite regularly in pernicious anemia is that during rapid cell regeneration or liberation the count rises more rapidly than the hemoglobin so that relatively the hemoglobin is lower than the count and the original color index over one falls below one; that is, changes to that found in secondary anemias. Indeed, the lack of hydrochloric acid probably renders these patients liable to the hypochromic anemias of other patients with achlorhydria. It is, therefore, necessary to give all patients with pernicious anemia iron in large doses during the first *months* of liver treatment and some iron should be given continuously with liver. The maximum amount of iron to give by mouth at first is in the neighborhood of a gram a day in terms of iron, or six grams of iron ammonium citrate, which we give in teaspoonful doses of a 25 per cent solution. Later, one-half or one-fourth of this dose is adequate to keep the hemoglobin high. There is a suggestion in the English literature that the cord symptoms are favorably influenced by iron. The size of the red blood cells during pernicious anemia deficiency is greater than normal, that is, averages

more than 7.5 micra. The simplest and most reliable way of determining this is by the volume index which Haden showed several years ago to be more characteristically changed than the color index. This is determined by spinning a volume of blood (10 cc. or small volumes in an hematocrit) under standard conditions. Blood with normal cell count and normal cell size should pack to a certain volume. If the cells are larger than normal this cell pack will be increased. The characteristic change in liver deficiency is an increase in cell size, in iron deficiency is a reduction in cell size.

There are, therefore, three determinations to make to know that the blood is completely normal under liver therapy: first, the red count, which should be five and one-half million; second, the hemoglobin, which should be 16 grams; and third, the volume index, which should be one. If the volume index is more than one, and especially if the count is below five million, greater dosage of liver is indicated; if the volume index is less than one, iron is needed.

CONCLUSIONS

The patient with pernicious anemia must be convinced that a blood count should be made once a month throughout his life. This is necessary for the following reasons: (1) Changes in environmental influences change the required amount of anti-anemic substance which will keep the blood normal; (2) the patient can not tell by his bodily sensations what his blood count is; (3) even slight depression of the blood count indicates a deficiency of supply of substances needed by the central nervous tissues as well as the hematopoietic tissues; and (4) rapid degeneration of the central nervous tissues will occur in the presence of only slight depression of the blood count.

————— R —————

There appears to be a pick-up in molar-yanking, or maybe it's fillings, in Europe. Exports of dental instruments and supplies jumped quite a bit last year, from \$879,000 in 1932 to \$1,090,000 in 1933. Fewer artificial teeth were shipped abroad, however.—*The United States News, April 2, 1934.*

COMMON SUMMER ERUPTIONS*

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This paper is not exhaustive, either in the number of diseases discussed or in the description of each disease, but it may serve to bring to the attention of the practitioners of medicine some of the more common acute summer rashes, differentiating them in their morphology, sequence of occurrence, and some methods of treatment which have proved of value.

DERMATITIS VENENATA

There are many causes of dermatitis venenata but at this particular time we are more interested in vegetative causes, whether due to the plant itself: to substances produced by the plant; to a change in the individual or a combination of both factors. It is not so much the substance alone but the acquired antigenic function with the assistance of certain substances that the organism itself can supply. It seems that many cases of plant poisoning are just this thing for I have seen individuals who will develop some type of vesicular eruption due to plants who have lived their lives in the environment of the same vegetation. Underwood reports 113 plants in this part of the United States capable of producing dermatitis venenata, the more common of which are ivy, oak, sumac, tomatoes, primrose and geranium. Wrinkle, however, cites a case of contact dermatitis due to lettuce poisoning. I have a case of a young lady, a sandwich maker in one of our drug stores, who eats tomatoes and they do not bother her but who, while handling them, develops quite a severe dermatitis venenata that is practically uncontrollable while she works. If she stays away from work a week her hands clear up without treatment.

The common location is on the exposed surfaces which are the neck, face, arms and legs but the present sane and healthful mode of dress has exposed most of the body and it is rather difficult to

*Read at joint meeting of the medical societies of Wyandotte, Franklin and adjoining counties at Ottawa, Kansas, July 27, 1933.

differentiate some of these lesions because of the generalized distribution of the eruption. The occupation is also a factor in distribution and the hypersensitive skin seems also to depend upon localization of the amount of the specific irritant which is brought in contact with the skin and the condition of the organism when the contact is made. Sweat or perspiration soaked clothing act as a catalyst. The time of day is also a factor. Evening or night seems to increase susceptibility due to the increased amount of the irritant carried by the heavy dew-laden atmosphere. This is responsible for many infected persons who have not come in actual contact with the plant itself.

The first symptom often noticed is itching or burning in a particular area. This is followed by some erythema and edema, the latter being very slight in some cases. The vesicles usually appear from six to 48 hours later but in some cases even as much as a week will elapse between contact and beginning vesiculation. The vesicles are usually linear groups as an evidence of trauma, scratching or rubbing; this is important in differential diagnosis. The vesicles are thin-walled, multiform, often coalescing to form quite large bullae. The irritation is easily spread by the rupture of the vesicles or bullae. The spread is usually more rapid in children because of their inability to resist rubbing and scratching.

This leads us to an important factor in the treatment of dermatitis venenata and that is the removal, as soon as possible, of the fixed oils that are causing the irritation. This is best done by thoroughly washing the parts with soap and water, care being taken to rinse thoroughly afterwards with 70 per cent alcohol. Another method suggested by Sellers and which has proved satisfactory in my practice, especially with adults, is the use of ether and alcohol, equal parts. I also find helpful the early use of some of the Rhus preparations; there are several on the market which are equally active. Soothing lotions are then applied, such as a starch-boric poultice made with a dram of boric acid and one-half ounce of starch to which a quart of boiling water

is added and the mixture boiled for a few minutes. This is cooled and either painted on or applied with fixed dressing until vesiculation ceases. Boric acid drams two to a quart of water as a fixed dressing or continuous wet pack is also good. Tannic acid and boric acid, equal parts, a dram to the pint, is also used; it has the disadvantage of staining linen, but in selected cases seems to be more beneficial. After 24 to 48 hours application of either of the above wet dressings a calomine lotion to which bismuth subnitrate has been added makes an effective and convenient dressing. It is my experience that more rapid progress is made and more comfort is obtained if a very mild application is used in the early stage of vesiculation. When the vesicles disappear and crusting and scaling begins some bland ointment is of benefit, either a mild boric acid ointment or a mild boric ointment with one per cent to three per cent salicylic acid. Often two per cent phenol in unguentum rosae is sufficient. It is important to remember that ointments should not be used until after vesiculation ceases.

As a prophylactic measure the use of some of the Rhus preparations in the spring is helpful to persons who are sensitive to vegetable irritants of various kinds. It seems that these preparations aid in desensitizing patients from plants other than the plant from which the preparation is made. There are a number of tests for determining sensitivities. Patch testing for sensitization is often of value if done properly. Rather satisfactory results can be obtained by binding parts of a suspected vegetation with adhesive to areas of the patient's body. There are also the intradermal and scratch-test methods of testing. However, I am not enthusiastic about either of the latter because they are expensive to the patient and seldom develop definite information.

PRICKLY HEAT MILIARIA, OR LICHEN TROPICUS

Miliaria or prickly heat is another common condition found during the warm weather as a result of profuse sweating or often sudden and profuse sweating, generally located on the covered surfaces of the body. However, some typical cases have been seen on the exposed surfaces

and these are misleading. The condition develops in the prickle layer of the epidermis probably due to a fermentation in the sweat glands. They first develop as a red papule which may develop into a papulovesicular lesion or even papulovesiculo-pustular lesion and simulate a pustular impetigo, but it usually differentiates itself from impetigo by a smarting and burning sensation. Nervous individuals and those who imbibe alcohol rather freely seem to be more subjected to the condition. Most cases would be self-limiting if left alone but at the beginning of the irritation the patient applies home remedies which cause complications, often resulting in eczema. The patient comes to the office with a large, weeping, crusty area simulating infectious eczematoid dermatitis or impetigo, which will be discussed later. The treatment of prickly heat is quite simple if the cases present themselves early. Wash the affected parts with soap and water, care being taken to remove all traces of the soap. Follow this with an application of bath alcohol and then apply a mild dusting powder or a calomine lotion with one per cent or two per cent phenol and request the patient to wear lighter clothing. Here, again, the number of cases is reduced by the present mode of dress.

IMPETIGO CONTAGIOSA

Impetigo contagiosa is the most common of all skin conditions and is most frequently found in the summer months. Probably one-fifth of all skin conditions which present themselves for treatment is impetigo. It is a primary invader as well as a secondary. Its various forms make it rather elusive and its ready invasion makes other skin conditions more complicated.

It is generally recognized that impetigo is due to staphylococcus, or in some instances the combination of streptococcus and staphylococcus. However, there occasionally do occur impetigenous-like lesions by other organisms producing similar eruptions. Probably the two most common organisms are *B. coli communis* or *B. pyocyaneus* and occasionally diphtheria, but these lesions usually follow febrile disturbance and differ markedly

from impetigo upon close examination. In impetigo small erythematous spots appear which form vesicles containing a turbid fluid which quickly becomes purulent. However, in many impetigenous lesions the erythematous area is very slight and the vesicle is the first thing noticed. The eruption may be limited to one or more discrete lesions or may extend over a large area, as is often the case where the condition has been neglected and poor sanitary conditions exist. The pustules are generally ruptured at an early stage on parts of the body exposed to friction. The simple lesions of impetigo are quite readily diagnosed from the typical method of spread. The lesion is observed as a small round vesicle with a rather flat opaque margin. This flat margin surrounds the vesicle and may extend from one millimeter to one centimeter from the mother vesicle and be very slightly, if at all, raised on the skin surface. Again, the mother vesicle may have ruptured and a smooth scale formed which is surrounded by the same opaque margin. This is characteristic of all simple impetigenous lesions. It is the more complex types that are often overlooked.

If the distribution is annular it is usually spoken of as impetigo circinati. In these lesions the margins are raised and crusted, granular, with a flat scale in the center. The growth is more or less rapid from the margin and markedly irregular in shape.

In the bullous type of impetigo the lesions are much larger and are not always transformed into true pustules. In the new born this particular type of impetigo is known as pemphigus neonatorum and may attack any part of the body.

In the vulgaris type, purulent points appear on an erythematous area which rupture rather easily and discharge a semi-purulent fluid which dries quickly into granular, yellowish scales. Older lesions of this type may have a greenish appearance. New pustules are continually forming among the scales and when these rupture they coalesce with the older lesions forming crusts of considerable size. If the skin becomes necrotic and a slough

results the new lesions thus formed are called ecthyma.

Another rather common impetigenous lesion is always situated around a hair follicle; is pustular from the beginning and usually observed first as a pustular area pierced by a hair. It may be quite small or even attain pea size. The pus collects under the horny layer which it distends and raises. It is usually multiple, has no site of election and in my observation is often found in flexor areas following the use of ointments or grease of some kind in hot weather. The lesions appear wherever a breach in the horny layer affords entrance to the pyogenic organism. The pustules are more resistant than those in *impetigo contagiosa* and are not so easily ruptured. When they do rupture yellow crusts, smaller and thinner than those of *impetigo vulgaris* are formed. The pustules of follicular impetigo are different from those of any other infection.

Sycosis of the beard is a staphylococcus infection which simulates follicular impetigo but the lesions start as papules about the hair rather than pustules and contain pus only in the older lesions. This inflamed base is the differential point in diagnosis.

All types of impetigo if neglected or are not properly treated may go on indefinitely inoculating or re-inoculating the patient, causing deep infection resulting in furunculosis or deep infiltrated lesions with erysipeloid tendencies.

We are all led to believe that the treatment of impetigo is a very simple procedure but it is rather difficult because the patients are careless about following instructions and often will not continue treatment until all traces of the infection are removed. The treatment used in the Royal Infirmary in Edinburgh as a general procedure in the more simple types of impetigo where environmental conditions will permit is good. It is the removal of all scaling and crusting with a boric-starch poultice and dressing of the lesions with a one per cent ammoniated mercury in a zinc paste. In addition to this I ask the patient to sponge the areas with bath alcohol before applying the ointment. The treatment in the office

which I use when I feel the patient will not cooperate is this: The scales, crusts and loose epidermis are removed with pledgets of cotton soaked in alcohol. The areas are then painted with silver nitrate, the strength depending upon the type of skin to be treated. In most instances five per cent aqueous solution is sufficient. Five per cent solution of gentian violet in alcohol is also very effective but due to its intense staining qualities is objectionable. Stronger ointments have this disadvantage—they increase the oozing and thereby spread the disease through the secretion. Especially is this true if used without removing the crusts and scales. Most of the failures in treating impetigo are due to the fact that instructions have not been followed, especially that part of the treatment requiring the removal of crusts and scales. This point cannot be stressed too much.

Care should be taken in obstinate cases to make sure that the remedy used is not irritating to the patient's skin. Removal of the scales with soap and water may be substituted for the boric starch poultice. In persistent cases a careful search should be made for pediculosis, scabies or *Cimex lectularius*.

SUMMARY

1. Sensitive individuals are the result of a combination of factors.
2. Generalized distribution of vesiculation in dermatitis venenata is often misleading.
3. Early removal of the irritant is important.
4. The use of ointments should be avoided during period of vesiculation.
5. Febrile disturbances are rare in impetigo.
6. The removal of crusts and scales is essential in the treatment of impetigo.
7. Cultures in obstinate cases are important.

—————R—————

Max Scheer and Harry Keil, New York (Journal A.M.A., March 24, 1934), report a proved case of codeine exanthem due to hypersensitivity to codeine. The characteristic rash seems to be follicular in location with a broad zone of erythema around the follicles. The rapid coalescence of the erythema produces a scarlatiniform appearance. Pruritus is usually a striking symptom. An unusual feature of the case reported was the presence of positive skin patch test. Antibodies could not be demonstrated in the blood.

X-RAY DOSAGE AND DEPTH FACTORS

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At the International Congress of Radiology at Stockholm in 1928 the International Roentgen Unit was adopted. This unit (symbol a small *r*) now gives us a means of universally accurate measurement of the quantity of *x*-ray radiation. It is to the radiologist as the grain is to the pharmacist. Techniques may now be interpreted between the different clinics from one continent to another with understanding.

While the definition of this unit sounds rather formidable, in practice one can now at a reasonable cost purchase *r* meters reading directly in *r* units, standardized by the bureau of standards. These meters are such that one with a little practice can measure ones dosage himself.

Previous to the adoption of this unit, measurements were made by different methods. Some of the most common in use were color changes of pastelle, photographic density comparisons, and biologic reactions. The majority of the men in this country used the dermatologist's "minimum erythema skin unit," or the amount of *x*-ray just sufficient to produce a slight reddening of the skin in 10 to 14 days; on the European continent, particularly in

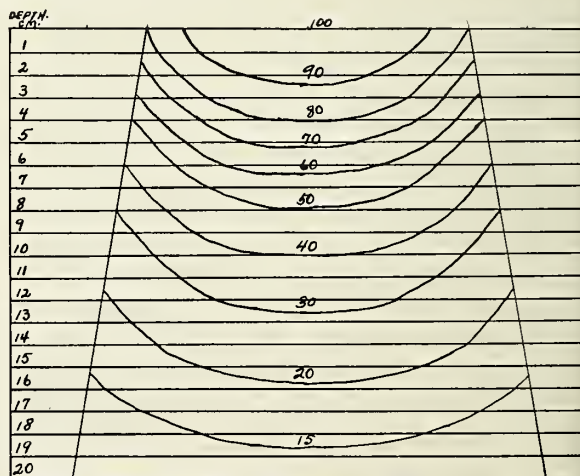
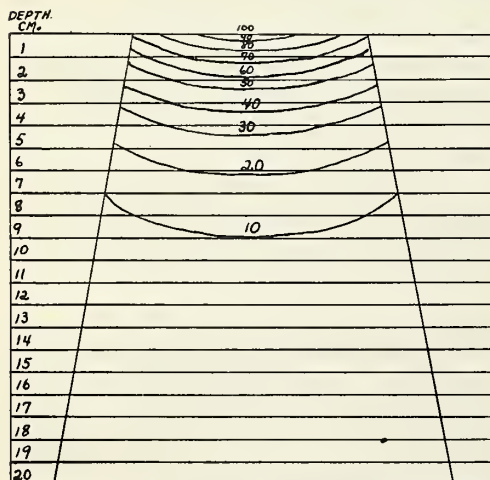
Germany, the pastelle unit was used. None of these methods were accurate, there being an error sometimes as much as 100 per cent in different men's interpretation of these units.

With the adoption of the Roentgen unit and the correlation of data and thought resulting from its use, a great deal of scientific knowledge has been gained in the past five years regarding the behavior of the *x*-ray beam. As most of this has only appeared in journals devoted to radiology and the general practitioner not having access to these, I wish particularly to discuss the factors controlling depth dosage as I find very few of the men have an understanding of these.

Depth dosages are expressed in the percentage of the ray reaching different depths of the tissue with reference to those at the skin surface, the skin surface being used as 100 per cent. It has been found that water depths correspond to tissue depth so one can measure with an *r* meter the exact amount of *r* units one is delivering at water surface and at different depths of water, and make charts which will correspond with its action in tissue. By then measuring the amount at the skin surface during a treatment one knows the amount reaching a given depth with the same factors when compared with a chart for water.

Since the biologic action of the different

WATER PHANTOM DEPTH PERCENTAGES



wave lengths of the x -ray beam are the same, one can adapt one's technique to the individual case at hand, if one knows the amount of r units necessary to give the desired results, or in other words: *How many r units are necessary at a certain depth in the tissues?*

Factors which control depth dosage on a patient are: (1) Size of field; (2) distance of the target from the skin surface; (3) filtration of rays, and (4) voltage applied to the x -ray tube.

1. *Size of fields:* Due to the effect of "back scatter" and secondary radiation, increasing the size of the area radiated increases the depth dosage. This is considerable from a small to a medium-sized field; however after a field reaches 20 cm. square it remains practically the same for commonly used voltages.

2. *Target skin distance:* x -Ray beams being a form of light waves, follow the laws of light (intensity varies inversely as the square of the distance from its source) increasing the target distance from 25 to 50 cm. gives us the ratio at 10 cm. below the skin surface of 1225 : 625 as 3600 : 2500 or approximately 20 per cent increase.

3. *Filter thickness:* Filters are used to "cut out" the softer rays in the x -ray beam leaving the shorter or more penetrating rays. Since these rays go deeper into the tissues as regards the amount reaching the surface, a higher percentage depth dose is obtained.

4. *Voltage:* This is the most important factor determining depth dosage. All the others only modify this factor as you must first have sufficient voltage or penetration to produce a beam with sufficient short wave components to go to the desired depth in the tissues. If sufficient penetration is not in the x -ray beam to carry it to the desired depth no results can be obtained regardless of how you manipulate the other factors. You might compare it to changing the bore, or choke, of a shotgun. While these are factors in the distance the shot will travel, the all-important part is the amount of powder behind the shot.

Since the toleration of the skin expressed in r units increases with the voltage being approximately the following

when measured on the surface with reference to the erythema dose unit—at: 85 Kilovolts, 300 r ; 100 Kv., 400 r ; 150 Kv., 600 r ; 200 Kv., 800 r , it is readily seen that to treat a deep-seated lesion one has considerable advantage in being able to deliver adequate therapy before skin toleration is exceeded with the higher voltages. At 100 Kv. the erythema dose on the surface delivers only about 40 r at a depth of 10cm., while at 200 Kv. about 320 r .

Using all possible skin surfaces for portals of entry, it therefore becomes impossible to adequately treat deep-seated lesions with low voltages as most conditions require from 500 to 2000 r units delivered to them, depending on their character.

In the illustration will be found depth dose charts of two commonly used techniques from figures made of depth readings in which the factors used are given.

—R—

Unique Book-Finding Service Locates "Hard-to-Obtain" Volumes in World-Wide System

Every person at one time or another is confronted with the problem of wanting a particular book that is no longer available through the regular publishing or bookstore channels. When a volume has reached that stage of scarcity, it is designated as "out-of-print" and commences to lead an elusive existence.

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UTERINE INFECTIONS*

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Uterine infections readily fall into two distinct classes, specific and non-specific. The specific gonorrheal type is confined almost exclusively to the active sexual period of life, and the endometrium is infected by the direct upward extension of the gonococcus from the infected cervix. This upward extension occurs immediately following the menstrual flow. The non-specific infections, chiefly due to staphylococcus or streptococcus may spontaneously occur in childhood or senility and are attributed in the first instance to lack of development of the secretory functions of the cervix and in the latter to senile changes of the cervix. In both instances the lack of local defenses explains the occasional invasion into the uterine cavity seen in children and the aged. So much has been written on the treatment of gonorrheal infection and the problem is so broad that no attempt will be made to touch this field in this paper. There are, however, in the field of non-specific infections problems so vital and interesting as to challenge an ever renewed effort on the part of the practitioner to defend a host of patients against the opportunists that face him in each labor, instrumentation or local treatment case.

Chronic low grade endometritis cases which are secondary to cervical lacerations and which constitute perhaps the largest single group which the practitioner meets, have responded very well to correction of the lacerations by fulguration, antiseptic packs and douches, foreign protein injections and diathermy. Mixed infections of the low grade type which are secondary to the gonococcus do not yield to the treatments just mentioned and seem to require the ingenuity of effort which the gonococcus type requires. I have never been able to determine whether or not this is due to a complication of the gonococcal infection. This point will require

serological study as repeated smears reveal no gonococci, yet they follow the same course of responses as characterize the gonococcus group.

Almost every case of pelvic inflammation due to streptococcus or staphylococcus may be traced to an infected endometrium the result of labor, miscarriage or instrumental treatment of the uterus. Aseptic measures are too well known to merit mention, therefore it is my purpose to confine my few remarks to those infected cases which present themselves following labor.

The bacteriology, we believe, is less important in these rather difficult times than an extension of the development of simple methods of treatment that are adaptable to the condition under which we are now working. The streptococcus, staphylococcus, *B. coli*, diphtheria, gas bacillus, typhoid and saparemas are all listed as infecting agents. Bacterial examination of the lochia, while highly desirable, presents difficulties in private practice and since it does not modify our mode of treatment greatly, except in gonorrhea, I doubt whether its routine use can be justified in average private cases. The attack of an infected case regardless of when seen should be most carefully outlined before any move is made for treatment. It little matters whether the case be puerperal, incomplete abortion or bungled instrumentation. The first principle of treatment is to determine whether active attack on the condition within the uterus or symptomatic treatment is to be instituted.

Free drainage is one of the first laws of surgery. Offhand, drainage of a uterus would seem to be indicated. Where infected material is felt to be present in the uterus, some type of curettement would suggest itself. Experience, however, of such writers as Williams, has shown that interference may prove most disastrous. Williams says: "Curettement in all cases of endometritis cannot be condemned too strongly for the reasons that in the most virulent infections there usually is nothing in the uterine cavity which can be removed and its employment can only do harm by breaking down the leucocytic

*Read before the meeting of the Montgomery County Medical Society, at Independence, Kansas, January 20, 1933.

wall which serves to prevent the invasion of the deeper layers of the uterus by the offending bacteria."

Carbolic acid douches not infrequently lead to the collapse of the patient, and bichloride douches to toxic poisoning. In our St. Louis clinics alcohol irrigation has not proven as satisfactory as Wetherhill reports. Dakin's solution has met the same fate. Piper with his mercurochrome has not equalled the record of Williams with his neolistic method, and at present Williams confines his efforts merely to a saline douche and claims by this non-interference method to have reduced his mortality to 10 per cent; this record particularly in his postmortem cases. Where streptococcus is the organism he is particularly inclined to use only douches and to avoid instrumentation. Antistreptococcus serum has not proven very satisfactory but none of the writers particularly condemn its use and agree it cannot do harm. In the light of these remarks I wish to present 10 cases which I have handled and the results of the same.

Case 1. Puerperal case; third baby; delivery December 24, 1930. Part of placenta not delivered and carried as an infected cast to January 16. Case curetted. Died three days later with a fluctuating temperature of 104° to 107°. Autopsy showed infective process had penetrated fundus of uterus and also had followed by way of broad ligament, forming an abscess. Case was mixed infection and died of general peritonitis.

Case 2. Age 20 years; colored; luetic. Uterine infection of retained products of a miscarriage. Chief symptom was a wild excitement for which a sanity hearing had been ordered. Patient curetted (dull curette Gottstine) and saline irrigation. Cervix kept open for two days but no further irrigation. Uneventful recovery within a week but with a persisting murmur in the heart for three months which then disappeared.

Case 3. Multipara; age 24 years; second child. Miscarried in May; placenta not delivered and was infected. Was carried symptomatically until September when patient was in coma, temperature 104° and considered hopeless. September 1, cervix

opened; pus under pressure shot out of uterus. At four hour intervals cervix was gradually dilated and merthiolate was injected; three tubes of mixed serum were given at six hour intervals and gentle exploration of uterus made with Gottstine curette and merthiolate injected with very low bag. Small areas were cleaned at each sitting but one horn of uterus which was very painful to any interference whatsoever was not molested. Patient was clinically normal in two weeks but unexplored portion of uterus still remained tender. Patient seen monthly and 18 months after the miscarriage the resisting horn yielded some normal appearing placenta.

Case 4. Age 28 years; seventh pregnancy; infected uterus following delivery of baby. Lochia extremely foul but not cultured; no drainage; when first seen the cervix had closed and on opening the cervix with Starling dilator, considerable pus was liberated. Merthiolate was injected daily for three days and cervix kept open. After two weeks, soreness had largely disappeared and curettement netted a small amount of membrane.

Case 5. Female, age 28 years; complaint, hemorrhage following miscarriage. Temperature 104°; hemoglobin 30 per cent; jaundiced; history of catheter and criminal abortion. Likewise, here we used injections of merthiolate for three days; curettement in 10 days. Uneventful recovery.

Case 6. Multipara, age 25 years; complaint of influenza. History of bleeding for some six weeks—leg cramps, symptoms were followed in 36 hours by marked jaundice. General examination negative except for uterine infection. Uterus full of liquid pus and piece of placental tissue size of a silver dollar removed. Due to the fact that the patient was moribund the rather bold measure of streptococcus serum given intravenously, uterus cleaned with Gottstine curette uterus filled with jell. Patient died two hours later. Autopsy following day.

Case 7. Multipara, age 34 years. Miscarriage followed by series of violent chills. Seen two weeks after onset; peritonitis had developed. Uterus emptied; ir-

rigated with merthiolate, and mixed vaccines given. Death followed in 48 hours, during which time bowels were locked. Death attributed to peritonitis extending from uterus. Autopsy denied.

Case 8. Virgin, age 18—uterine infection—mixed type. History would indicate this infection was secondary to a gonorrheal infection. In packs to control pain. Cervix opened to permit drainage. Foreign protein, 5 cc. of milk given every other day for 10 days. No intra-uterine work attempted. Patient later developed a severe vaginitis, apparently trichomonas as they were found abundantly in the smears. The vaginitis persisted in spite of all treatment until bichloride douches were instituted.

Case 9. Multipara, age 28 years; history of hemorrhage, mixed infection, and patient rapidly developing a severe toxemia. Mixed infection serums, six in number at eight hour intervals; cervix kept open. Merthiolate injected. Later, curettement revealed very little on which to base a diagnosis. Uneventful recovery. This uterine flare-up apparently resulted from some foreign injection for pustular acne.

Case 10. Multipara, age 28 years; history of disturbed menses and treatment extending over a year. Developed acute bleeding and was pronounced a miscarriage, but curettement withheld by physician because of suspicion of infection. Patient rapidly passed into a toxic state. When seen, had a mixed infection; a huge boggy uterus too tender for any manipulation. Merthiolate injection was followed by passing of small pieces of placental tissue and piecemeal curettement extending over a month resulted each time in placental tissue. Following last exploration patient became pregnant delivering a normal 10 pound child with no subsequent symptoms.

SUMMARY

1. An analysis of these few cases shows that the fatalities occurred only in those cases where general septicemia or peritonitis had intervened before any intra-uterine measures were instituted.

2. In each instance by opening the cervix and establishing drainage the toxic symptoms decreased.

3. No definite procedure was established in the care of these severe cases but we believe that the conservative method used in most of them was responsible for saving the life of the patient.

4. These few cases indicate it is safe to leave infective material in the uterus until the condition is brought under control.

5. Merthiolate has proved a useful agent in the early control of the case and we believe was helpful when curettement was used, as a dull curette like the Gottstine which was used only as rapidly as the subsiding inflammation would justify.

6. That the simple injection of merthiolate would seem to suffice for periods of 12 to 24 hours in the acute stage. Merthiolate jelly which is a recent development of the Lilly Laboratories seems to present a useful form as it has sufficient body to push its way into all the crevices but will not readily enter so small a passage as the tubes and apparently is absorbed, having its antiseptic action locally on the uterus and no apparent toxic effect on the patient.

R

The Nichols Sanatorium.—In Savannah, Mo., there has been for some years an institution known as the Dr. Nichols Sanatorium for Cancer. It was founded by one Perry Nichols who held a diploma from the University of the South Medical Department, Seawanee, Tenn., 1901, and who died in 1925. The Nichols concern, which, of course, uses the escharotic treatment, is the subject of an article by the Bureau of Investigation of the American Medical Association. According to the statement that has been made for many years, both before Nichols died and since, this has been vaguely described as: "... a double compound, about four times the strength of chloride of zinc plaster, or the arsenical or Marsden's paste, and acts with decidedly less pain." In fifty-five cases of alleged cures of cancer by the Nichols Sanatorium that were investigated, it was found that all but three of the cases had been diagnosed as cancer, not by independent physicians, but by the Nichols concern itself. In the three patients whose cases were diagnosed as cancer by physicians, no microscopic examination had been made. Many persons, especially those past middle age, who develop benign growths, assume that such growths are cancer and on their own responsibility go to these cancer-cure institutions that advertise that they do not use the knife. There the patient is told that the condition is cancerous; the growth is eaten out with caustics, the wound heals, and the patient goes back to his home a living advertisement for the "cure" of a "cancer" that never existed. (Jour. A.M.A., December 2, 1933, p. 1817).

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Acute Amebiasis

EDW. H. HASHINGER, M.D.*

Colitis caused by infection with the protozoan *Endameba histolytica* has been well known as a chronic disease, but until recently has not been considered as an acutely serious disease in the temperate zone, mortality appearing principally in the tropical regions. This chronic dysentery is practically endemic in the United States, particularly in the southern states, and some statistics intimate a prevalence as high as 10 per cent of the population as infected. The present epidemic of acute amebiasis, of which we are reading considerably in both the scientific literature and the daily newspaper, has produced more general routine stool examination in the healthy individual, and the surprising percentage of infected cases has led us to realize that this endemic infection has come north.

I am presenting today a case of acute amebiasis which presents a quite different picture than that of chronic endemic infection. Mrs. J. G., aged 71, living in Kansas City, Mo., just five city blocks from this hospital, was admitted to Bell Memorial Hospital December 10, 1933, complaining of weakness and diarrhea, which has grown progressively worse the past four weeks, although she has had previous attacks lasting three to five days, off and on for the past two months. She visited the World's Fair in Chicago late last August, and stayed at Hotel A; returned in September, and stayed at the same hotel. At the end of the second visit which lasted 10 days, she had an attack of indigestion, with some nausea and vomiting, and severe abdominal cramps and diarrhea, which lasted for two days. On returning home to Kansas City, she had a recurrence of the diarrhea about 10 days later, and subsequent spells of this until four weeks ago when the present and continuous attack of diarrhea began. However, since the first attack in Chicago, she has had a poor appetite, and has constant-

ly lost weight, until on admission to the hospital she was markedly emaciated. Since the start of her present and last attack she has had frequent bloody mucus containing bowel movements, as many as 30 a day, and has become so weak as to be unable to feed herself. No stool examinations were made by the two physicians in attendance, although the patient suggested this procedure on the hypothesis that she might be suffering from amebic infection, about which she had read in the newspapers.

On admission she was semicomatose, tremendously emaciated, and extremely weak. Heart negative, except sounds rather weak. Blood pressure 120/100; some generalized arteriosclerosis. Abdomen slightly distended, with generalized tenderness, especially marked in the right lower quadrant. There is general muscular rigidity of the abdominal muscles. We were unable to palpate the spleen or liver due to this rigidity. Laboratory examination: Urine showed trace of albumin; red blood cells 4,200,000; hemoglobin 77 per cent; white blood cells 18,450; polymorphonuclear leucocytes 52 per cent; myelocytes 14 per cent, and metamyelocytes 33 per cent. During the course of the patient's stay of 14 days in the hospital, white blood cells fell to 8,500, and the polys rose from 52 to 91 per cent. The blood chemistry was at all times within normal limits.

Stool examination made immediately on admission showed great numbers of large actively motile amebae, with much blood and mucus. Temperature 100.6°, and pulse 130. Diagnosis of acute amebiasis with possibility of localized peritonitis and intestinal perforation, was made, and treatment instituted at once. She was given 1 grain of emetine hydrochloride subcutaneously daily, and 5 grains of vioform (iodochloroxyquinoline), twice daily, in gelatine capsules. In view of her marked dehydration, she was given fluids under the skin, and subsequently owing to the lack of nutrition was given glucose intravenously.

Within 48 hours the diarrhea was controlled, and the patient's fever came down to normal, but the abdominal distention increased, and pain and rigidity

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increased accordingly. Her heart action became progressively weaker, and the pulse more rapid, and in spite of various efforts at stimulation and sustaining the patient, she died on the fourteenth day; autopsy was secured.

AUTOPSY REPORT

Dr. Wahl, pathologist: The body was that of an elderly woman showing unusually marked emaciation. The abdomen seemed to be considerably distended, but no masses could be felt. The organs of the chest presented nothing unusual except some dilatation of the heart and an unusually flabby musculature. The peritoneal cavity was interesting in that numerous areas of focal peritonitis were seen over the large intestine, these local areas being covered by adhesions. On breaking down these adhesions a purulent exudate exuded and an opening was found extending into the gut, these perforations all involving the large intestine and apparently being just opposite the base of rather large, irregular, deep, well defined ulcers. There was no general peritonitis, however. Apparently, the omentum covered over and protected each one of the perforations as they occurred, limiting the inflammatory reaction to local areas around the openings.

The gallbladder showed a large stone. The other peritoneal viscera presented nothing worthy of special note. The small intestine was considerably distended and congested but otherwise was negative; but, on the other hand, the large intestine showed numerous extensive irregular worm-eaten ulcers throughout its entire length. These ulcers showed rather well defined edges and in most places fairly clean, smooth bases. A tendency to undermining of the edges could frequently be noted. The entire gut was quite congested. The ulcers seemed to be more poorly circumscribed in the ascending and transverse colon and more sharply defined towards the sigmoid colon and the rectum. The typical bottle-shaped ulcers, so commonly described in chronic amebic dysentery, were not well defined here. These ulcers in most places extended only to the muscularis. However, in a few places they perforated through

the muscularis and even extended through the serosa, but the contents of the intestine did not pass into the peritoneal cavity owing to adhesions from adjacent structures or from the omentum. It is interesting to note microscopic examination of the walls of the ulcers of the large intestine presented very few amebae. The edges and bases of the ulcers, on the other hand, presented the typical appearance of amebic ulcers in that very little inflammatory reaction was seen. The absence of the organism was undoubtedly due to the effect of the treatment. While the main lesion present was the extensive ulcerative colitis due to amebic dysentery in the large intestine the kidneys did show some evidence of a chronic glomerulonephritis. It is quite probable that the immediate cause of the patient's death was the myocardial failure though the toxemia derived from multiple localized areas of peritonitis associated with the perforation of the bowel may have been an important contributory factor.

No evidence of abscess formation in the liver was found. This could hardly be expected inasmuch as this is a relatively acute form of amebic dysentery, and it is only in the chronic infection that the large solitary abscess occurs. The ulcers show a striking tendency to perforate the gut. This was noted in another case recently examined in which there was no tendency to wall off the infection and in which the patient was reported clinically as having some acute abdominal condition, probably appendicitis. In this case also the ulcers were of the same character showing very little inflammatory reaction but in the substance and base of these ulcers large numbers of amebae. This particular case had not been treated for amebic dysentery such as the case first described. In a third case which has come under our attention, the perforation of the bowel again occurred without very extensive ulceration, apparently the acute forms of this disease resulting in rather extensive necrosis and early rupture of the colon.

CONCLUSION

Dr. Hashinger: I have presented to you today the history and end result of

a case of acute amebiasis, which is an extremely serious ailment. You have heard in this instance of its rapid termination in death, through its production of intestinal perforation and local peritonitis, and its marked toxic effect on the cardiac musculature. I have no doubt that had this diagnosis been made early in the disease, and proper treatment instituted, the patient would have completely recovered. We should have little difficulty in making a definite and early diagnosis, with the knowledge that this infection frequently starts suddenly with an attack of so-called indigestion, perhaps nausea and vomiting; general abdominal pain, sudden and severe diarrhea with tenesmus, accompanied often with blood and mucus in the stools. In certain instances the pain may be excruciating. There may be chills, and usually there is general muscle and bone aching. The fever is as a rule not high, rarely going over 101°. The pulse is early involved, being more rapid than one would expect with the fever. In view of the great tendency for this infection to early manifest its activity in the cecum, the tendency is to think of acute appendicitis. In fact, the only other two cases of acute amebiasis in this present epidemic seen by me were operated on for appendicitis, and in both instances severe ulceration of the cecum was observed, accompanied by perforation. Both patients died. It seems rather strange that both of these patients had diarrhea also from two to four weeks, but no stool examinations were made. As has been mentioned by Dr. Wahl, in this type of amebiasis we do not often see abscess of the liver, that particular manifestation being reserved for the chronic type.

Frye and Meleney¹ in their studies showed in and around Nashville, Tennessee, five distinct types or strains of *Endameba histolytica*, certain ones of which produced more severe symptoms. Unquestionably, the Chicago strain of ameba is a very virile one. *Endameba histolytica* is considerably larger than the non-pathogenic *E. coli*; its ectoplasm is refractile, nucleus faint, and shows a marked motility in contrast to the immobile *E. coli*. Whereas formerly it was

thought that for a definite diagnosis red blood cells must be seen in the ameba, we know now this is not essential. The cysts, or resting stage of the ameba, are quite small, and contain not over four nuclei. Contamination is not had by the ingestion of the active stage of the ameba since they are killed by the hydrochloric acid of the stomach, but exclusively through ingestion of the cysts. Each cyst produces after taken into the intestinal tract of the human eight small amebae. Cysts are particularly resistant to the usual bactericidal agents, but are readily killed by sunlight or drying. Staining and cultural methods to assist in the diagnosis are possible, but repeated warm stool examinations—and by “repeated” I mean as many as 20 examinations—furnishes the best method of diagnosis. For a very excellent review of amebic dysentery. I refer you to a special article in *The Journal of the American Medical Association*, under date of November 18, 1933, Vol. 101, page 1639, No. 21.

While I feel that the use of emetine hydrochloride in daily one grain doses subcutaneously, accompanied by the daily giving of 10 to 15 grains of vioform by mouth, will take care of any case of acute amebiasis, it might be well to mention some of the other agents used, particularly chiniofon, (which is similar to vioform), acetarson, and carbarsone. The patient should be kept warm in bed, fluids and nutrition maintained, particularly with hot nourishing broths and soups, barley water, and egg albumin; and when symptoms improve, more solid foods, such as custards, soft puddings, eggs, etc., should be given. The tendency to anemia from loss of blood and lack of food should be watched, and controlled by blood transfusions and other therapeutic measures such as iron, arsenic, and concentrated foods. Remember that we are dealing with a disease which may rapidly become fatal through its very toxic effect on the heart musculature, through its production of anemia by loss of blood, or by perforation of the intestinal tract. Destroy the parasite, and sustain the host, are two therapeutic procedures that must run concurrently.

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CASE REPORT

A Case of Embryonal Ectopia Intestinalis

F. W. KOONS, M.D.

Halstead, Kansas

Congenital umbilical hernias are not uncommon, and the occurrence of a variable portion of the abdominal viscera in a sac outside of the abdomen at the umbilicus has been frequently reported. Ectopia intestinalis without a sac is so infrequently encountered that the writer feels warranted in reporting his case.

Mrs. M. V., secondpara, age 21, whose family history and course of pregnancy are of no importance as having any bearing on the case, was first seen September 4, 1933, and gave the following history: Her past medical history was practically negative. The last menstrual period occurred February 1, bringing the date of her expectancy to November 8, 1933. There had been none of the usual discomforts or disturbances of pregnancy until the date first mentioned when she sought relief from gas in the stomach.

Examination of her general physical condition was essentially negative, the size of the uterus was compatible with a seven to a seven and a half months' pregnancy. The pelvic measurements were within the normal limits. The fetal head was on the brim with the back to the right and the small parts to the left, the fetal heart rate was 145, clear and distinct, of regular rhythm and heard one inch to the right and one inch below the umbilicus.

The patient was next seen October 2, when she reported for more medicine for her stomach. At this time the findings were practically the same as those found at her former visit.

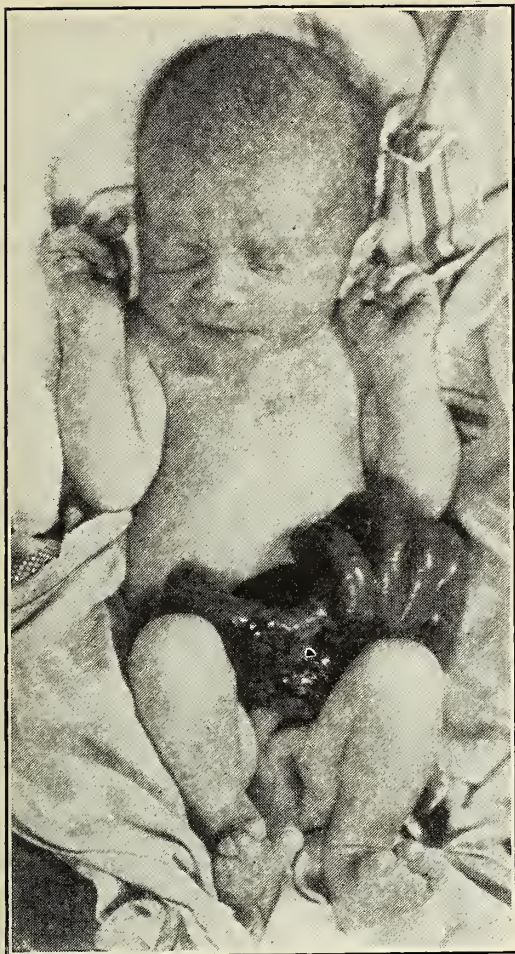
At about ten o'clock the night of October 12, the membranes ruptured and labor pains began at two o'clock the following morning. When examined at about 3:30 the same morning she was well in the second stage of labor, vertex presentation, position R.O.A., the fetal heart tones were of good quality and rhythm with nothing to suggest anything but a normal babe. Delivery occurred a few minutes before six the same morning under light ether anesthesia. Some difficulty was encountered in delivering the shoulders and the babe gave several lusty cries before delivery was completed. The following condition was discovered: Almost the entire small intestine, the cecum and ascending colon were extruded through a defect of the abdominal wall at the level of the umbilicus. At first sight, the light being poor, the condition was thought to be an enormous anomaly of the cord but closer inspection revealed the actual state of affairs. The large and small intestine were lying free on the abdomen and between the thighs of the babe, a sac or the remains of one was not seen, no hemorrhage occurred from or about the intestinal mass, and no remains of a sac was found at operation, or postmortem. The cord was normal as was the placenta. The cord was attached at the left side of the defect at the umbilicus and its relations were normal.

Deeming it injudicious to attempt reduction in a farm house with poor light and other inconveniences, after ligating and severing the cord the intestines were protected with sterile gauze, the babe wrapped in sterile towels and brought to the hospital and operated on soon after, under novocain and a few drops of ether, by Dr. Chesky at the Halstead Hospital.

The babe seemed to suffer very little operative shock and apparently did well until the beginning of the fourth day when it became dehydrated and died.

NECROPSY REPORT

Baby boy V., age four days; clinical diagnosis: embryonal ectopia intestinalis. The right lung was almost solid with confluent bronchopneumonia. The mid-portion of the left lung showed numerous areas of bronchopneumonia. There were



about five cc. of clear, straw-colored fluid in the pericardium. The heart was not remarkable.

The abdominal cavity showed a small amount of serous exudate. There was a congenital maldevelopment of the intestines, in that failure of rotation of the cecum left the large intestine in a position seen in a ten weeks' old embryo. There was no gastrocolic ligament and the mesentery of the small intestine was unusually long. All of the small intestine was considerably engorged and one area two cm. long in the lower ileum had herniated through a tear in the serous covering and the intestine was gangrenous in this area. The wall of the small intestine appeared unusually thick. There was no infection about the surgical closure of the abdomen. There was a subdiaphragmatic abscess, anteriorly, containing about 10 cc. of thick yellowish pus.

The right kidney pelvis contained a small amount of thin, sero-purulent material. The left kidney also involved, contained a smaller amount of the same material. The spleen was slightly larger than normal, and soft. The position of the right umbilical artery was on the left side of the defect in the abdominal wall and the umbilical cord attached to the left side of the congenital defect in the wall.

Necropsy diagnosis: Confluent bronchopneumonia of the right lung; bronchopneumonia of the left lung; subdiaphragmatic abscess; gangrene of a portion of the ileum and congenital maldevelopment of the intestines (failure of rotation of the cecum).

COMMENT

This case was entirely a congenital deformity and the explanation for its occurrence found in a study of the early embryo.

At about the tenth week the embryonal intestinal tract is made up of little more than a wavy tube with the beginning of rotation of the cecum over the small intestines. The intestinal tract at this stage lies almost entirely outside of the abdominal cavity but in the sac about the cord producing a condition like a huge umbilical hernia. The abdominal wall is gradually closing about the umbilicus and the normal occurrence should be a gradual drawing of the intestines into the abdominal cavity from this stage. In our case the intestines remained outside the body cavity while the abdominal wall closed except for a space of about two inches. The usual occurrence in such cases is a stretching of the peritoneum across the defect and thus forming a sac-like covering over the intestines. This is not a herniation because the viscera were never in the abdominal cavity. In our case no evidence of a sac having ever been present was seen, in fact the peritoneum covered the edges of the defect and fused with the cutaneous border at its sides. This is difficult to explain except we assume that a sac was present in the very small embryo, ruptured early and its remnants atrophied. It is possible the coelomic cavities of the embryo failed to unite in the anterior portion and no anterior peritoneal covering was formed. How this maldevelopment

ment occurred is, however, an academic problem. Our concern is what to do about it. A number of cases of abdominal wall defects at the umbilicus, have been reported in the literature, which cases have survived following repair of the abnormality.

An attempt should be made as soon as possible to place the viscera in the abdomen and close it. This is more difficult than the inexperienced might presume on account of the small size of the belly cavity. The intestines should be pressed as gently as possible into the abdomen and held there by an assistant. The margins of the defect being covered by peritoneum should be freshened to allow a plastic exudate to form on its surface. The abdominal wall should then be closed with heavy through-and-through silkworm-gut sutures; no attempt should be made to close the layers of tissue separately. The umbilical cord will have been taken care of previously in the usual manner.

If the infant survives, little fear need be felt it will suffer any consequences from its maldevelopment except a hernia from weakness of the abdominal wall at the site of repair. The possibility of future obstruction of the intestine by reason of the redundant mesentery also must be kept in mind.

The writer wishes to acknowledge valuable assistance from Dr. Arch E. Spelman in furnishing autopsy and embryological data in this paper.

R

The Administration of Thyroxine.—There can no longer be doubt that thyroxine represents the effective iodine-containing hormone of the thyroid gland. One of the puzzling features of thyroxine from almost the outset of its discovery and isolation has been the repeated observation of the inefficacy or greatly lowered effectiveness of thyroxine when it is administered by mouth rather than intravenously. At first thought one would expect the purified hormone to be quite as potent as an equivalent amount of desiccated thyroid gland. According to observations at Rush Medical College in Chicago by Harington and Salter the physical properties of thyroxine are such as to make it highly probable that the absorption of this substance after oral administration would be inefficient and erratic; the digestion product, on the other hand, possessing as it does a much wider range of solubility, might well be absorbed almost quantitatively. The Chicago clinicians conclude that solubility of the thyroxine compound administered would therefore appear to be important and destruction by intestinal enzymes must be considered; but only future work will determine whether or not some other factor, as yet unknown, is also to be considered. (Jour. A.M.A., December 2, 1933, p. 1805).

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Tuberculosis associations realize that no one can, by his own efforts, protect himself and his family against tuberculosis. They are, therefore, calling attention this year to the need of intelligent, well-directed group action. The slogan of their 1934 educational campaign is "Tuberculosis Robs You—Public Health Protects You." The modern practitioner plays an important role in public health practice. The rapid development of public health and scientific medicine, and the need for social adjustments of various kinds are responsible, here and there, for misunderstanding if not actual conflict. How cooperative relationships between the health department and the medical profession have been effected in one city, Detroit, Michigan, has been reported by Henry F. Vaughan, Health Commissioner of Detroit, and Ledru O. Geib of the Wayne County Medical Society. A brief description of the Detroit plan follows.

The Doctor's Office as a Health Center

Virtually every qualified physician in Detroit has become, to all intents and purposes, a deputy health commissioner, and his office a center for preventive medicine.

The ultimate objective of the plan is to have the family doctor take care of his patients in health as well as in time of illness. Another objective is to re-educate the public to look to the physician in private practice for such preventive services as diphtheria protection, small-pox vaccination and periodic health examinations, rather than to depend upon public agencies and free clinics—in short, to impress upon the public mind the fact that preventive medicine is a purchasable thing, and something that is to be paid for in the same manner as any other desirable commodity.

FAMILY DOCTOR IS THE UNIT

The Detroit Plan is a group plan—the group being the organized medical society. It is not built about a unit or community health service constructed around

a clinic or hospital center, but rests upon the family physician who becomes the unit on which medical practice is constructed. At present 1,100 doctors are active participants. There is no insurance scheme but a reasonable honorarium is paid to physicians for services rendered in their own offices to those who are unable to pay. Funds for this purpose come from the budget of the health department.

Physicians who have agreed to cooperate abide by certain orders and regulations prepared jointly by the medical society and the health department. The plan began with a diphtheria prevention program. It was agreed that on certain days the cooperating physician will give toxin-antitoxin or toxoid for one dollar per treatment. The agreement does not hinder the physician from charging his client any price he chooses if the patient comes at any other hour. The physician also agrees that if the patient cannot pay he will render the service free to the patient and the health department agrees to reimburse him at the rate of fifty cents for each service. Each cooperating physician is supplied with record cards for his own use, and postcards which he mails to the health department for recording each series of toxin-antitoxin or toxoid treatments.

This scheme enables the health department continually to broadcast to the public that diphtheria immunization may be obtained at a certain price or for nothing if one is unable to pay.

While the plan was introduced with the diphtheria prevention campaign the ultimate purpose is to secure the participation of every qualified and prepared physician in the practice of preventive medicine. Recently tuberculosis prevention was added to the scheme. This plan is regarded not as a substitute to the tuberculin testing and *x-ray* service in the schools as at present conducted, but as a supplement to it. The procedure is outlined in the following circular which was sent to all physicians in Detroit.

OUTLINE OF PROCEDURE

"Children and adults will be urged to come to you by an active educational program through the radio, billboards, news-

paper articles, and speakers before lay groups.

"There will be issued to school children a 'Notice to Parents' urging that the children be taken to their physician. If parents do not have a regular physician the Wayne County Medical Society will furnish them with the name of one or two cooperating physicians who reside in their neighborhood.

"The first visit should include a tuberculin test and a general physical examination. Tuberculin for the Von Pirquet test can be secured without charge (for Detroit) from the Department of Health, at the Wayne County Medical Society, or at the Detroit Tuberculosis Sanatorium.

"Every individual who has a positive tuberculin test should have an *x-ray* examination. The roentgenologists have agreed to accept your statement regarding the ability of the individual to pay for the *x-ray* service. If you feel that the patient is unable to pay even a part of the *x-ray* cost, he may be sent to the Herman Kiefer Hospital where the *x-ray* examination will be made without charge (for residents of Detroit) and a report will be sent to you.

"The charge for this examination should be arranged between the physician and the patient but no one should be turned away because of inability to pay.

"We expect that a fee of ten cents will be paid for each report sent in.

"When a positive diagnosis is made, the case should be reported to the Department of Health on the regular forms provided for that purpose. The state law requires that these records be not open to public inspection."

With this outline was sent a letter signed by the Wayne County Medical Society, the Detroit Tuberculosis Sanatorium and the Department of Health inviting the physicians to participate. Those who reported received a second letter thanking them for their cooperation, stating where tuberculin might be obtained and urging them to attend a series of clinical conferences arranged by the joint staffs of the sanatoria. With this letter were enclosed examination blanks, and postcards on which to report cases found.

Health officials and representatives of medical associations are watching with keen interest the experiment at Detroit. While it may not be adaptable for all communities it throws light on the problem of medical and public health relationships and suggests the basis on which cooperation may be effected.

—R—

76th ANNUAL MEETING KANSAS MEDICAL SOCIETY

Wichita, May 9, 10 and 11, 1934.

Registration: Hotel Allis.

Sections on Medicine and Allied Specialties and Eye, Ear, Nose and Throat: Hotel Allis.

Sections on Surgery, Gynecology and Obstetrics: Hotel Lassen.

Guest speakers include:

A. I. Folsom	Dallas
Louis Rudolph	Chicago
O. W. Bethea	New Orleans
E. V. Allen	Rochester
P. B. Magnuson	Chicago
T. K. Brown	St. Louis
H. S. Gradle	Chicago
C. M. MacBryde	St. Louis
Karl A. Meyer	Chicago
L. W. Dean	St. Louis
Louis A. Brunsting ...	Rochester
E. C. Ernst	St. Louis
J. L. Jelks	Memphis

A copy of the complete program will be mailed to each member of the society prior to the meeting. The tentative program follows:

Wednesday, May 9

MORNING

Section on Medicine and Allied Specialties
8:45-9:30—E. V. Allen, "Hypertension."

9:30-10:15—Louis A. Brunsting, "Recent Advances in Eczema."

10:15-11:00—C. M. MacBryde, "The Anterior Hypophysis."

11:00-11:45—E. V. Allen, "Normal Blood Pressure and its Physiologic Variations."

Section on Surgery, Gynecology, and Obstetrics

8:45-9:30—C. M. MacBryde, "Hormones Effecting Pregnancy."

9:45-10:30—P. B. Magnuson, "Arthritis with Injuries Superimposed."

10:45-11:30—T. K. Brown, "Puerperal Infections."

Section on Eye, Ear, Nose and Throat

9:00-9:45—H. S. Gradle, "Glaucoma."

10:00-10:45—H. S. Gradle, "Iritis."

11:00-11:45—H. S. Gradle, "Corneal Ulcer."

NOON LUNCHEONS

Round Table Discussions, 12 to 1:45 p.m.

Section on Medicine and Allied Specialties—Aviation Room, Allis Hotel.

Section on Surgery—Ball Room, Lassen Hotel.

Section on Obstetrics and Gynecology—Lounge, Lassen Hotel.

Section on Eye, Ear, Nose and Throat—East Room, Allis Hotel.

12:30 p.m.—Luncheon Meeting of County Society Secretaries—Ingalls Room, Allis Hotel.

AFTERNOON

General Sessions—Ball Room, Allis Hotel.

1:45-2:15—Address of Welcome and President's Address.

2:15-2:30—Report of Committee on Necrology.

2:30-3:15—P. B. Magnuson, "Fractures."

3:15-4:00—H. S. Gradle, "Eye Injuries and Their Immediate Treatment."

4:00-4:45—C. M. MacBryde, "The Anterior Hypophysis."

4:45-5:30—T. K. Brown, "Genito Urinary Infections."

EVENING

Dinner, 7:00 p.m.—Alumni Reunion Smoker and Entertainment—Ball Room, Allis Hotel.

8:00 p.m.—Meeting of House of Delegates—Ingalls Room, Allis Hotel.

Thursday, May 10

MORNING

Section on Medicine and Allied Specialties
8:45-9:30—O. W. Bethea, "Physical Diagnosis."

9:30-10:15—E. V. Allen, "Diseases of the Peripheral Blood Vessels."

10:15-11:00—E. C. Ernst, “*x-Ray.*”

11:00-11:45—A. I. Folsom, “Treatment of Pyelitis.”

Section on Surgery, Gynecology, and Obstetrics

8:45-9:30—T. K. Brown, “Urinary Infections.”

9:45-10:30—P. B. Magnuson, “Traumatic Injuries to the Chest.”

10:45-11:30—Karl A. Meyer, “Present Status of Gastric Surgery.”

Section on Eye, Ear, Nose and Throat

9:00-9:45—L. W. Dean, “Functional Ear Test for Hearing.”

10:00-10:45—L. W. Dean, “Mastoid Complications.”

11:00-11:45—L. W. Dean, “Chronic Otitis Media.”

NOON LUNCHEONS

Round Table Discussions, 12 to 1:45 p.m.

Section on Medicine and Allied Specialties—Aviation Room, Allis Hotel.

Section on Surgery—Ball Room, Lassen Hotel.

Section on Obstetrics and Gynecology—Lounge, Lassen Hotel.

Section on Eye, Ear, Nose and Throat, East Room, Allis Hotel.

AFTERNOON

General Sessions, Ball Room, Allis Hotel

1:45-2:30—L. W. Dean, “Pediatric Otolaryngology.”

2:30-3:15—Louis Rudolph, “Vertex Dystocia.”

3:15-4:00—L. A. Brunsting, “Problems in Treatment of Syphilis.”

4:00-4:45—E. C. Ernst, “*x-Ray.*”

4:45-5:30—Karl A. Meyer, “Gallbladder Disease and its Complications.”

EVENING

Dinner, 6:30 p.m.—Banquet, bridge, dancing and entertainment—Ball Room, Lassen Hotel.

Friday, May 11

MORNING

Meeting of House of Delegates, 8:00 a.m.—Ingalls Room, Allis Hotel.

General Sessions—Ball Room, Allis Hotel.

8:45-9:30—O. W. Bethea, “Specific

Treatment of Asthma.”

9:30-10:15—Louis Rudolph, “Version.”

10:15-11:00—Karl A. Meyer—

11:00-11:45—J. L. Jelks, “Recto-Colonic Disease.”

NOON LUNCHEONS

Round Table Discussions, 12 to 1:45 p.m.

Section on Medicine and Allied Specialties—Aviation Room, Allis Hotel.

Section on Surgery—Ball Room, Lassen Hotel.

Section on Obstetrics and Gynecology—Lounge, Lassen Hotel.

Section on Eye, Ear, Nose and Throat—West Room, Allis Hotel.

AFTERNOON

General Sessions—Ball Room, Allis Hotel

1:45-2:30—A. I. Folsom, “Prostatic Resection.”

2:30-3:15—J. L. Jelks, “Cancer of the Rectum.”

3:15-4:00—O. W. Bethea, “Treatment of Pneumonia.”

—————R—————

KANSAS MEDICAL AUXILIARY

Ninth Annual Meeting

The Sedgwick County Medical Auxiliary welcomes you to Wichita and hopes the four days spent in our city as our guests will be happy days long-to-be-remembered. We have planned this social program for your entertainment, bearing in mind that you will, of course, want some free time to visit our stores and roam at leisure. If we can supply you with any information or serve you in any way during your visit, we shall be more than glad to do so. Kindly register at once and make your reservation *now* for each social affair.

Headquarters—Mezzanine Floor—Hotel Allis.

Registration Tuesday, Wednesday and Thursday from 9 a.m. to 6 p.m.

PROGRAM OF ENTERTAINMENT

Tuesday, May 8

2:00-4:00—Drive through the parks and visit to Wichita's most beautiful private gardens. Cars will leave from Hotel Allis.

(Continued on Page 148)

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

For many years we have all labored for the welfare of humanity in the treatment of disease, but too much time is wasted in individual efforts.

Much of the confusion at this time comes from a lack of coordination among the different groups. We really belong to the educational as well as the medical profession. Our communities should be educated to recognize the ability of their physician; to call him at the onset of any unusual symptoms and having confidence in his judgment accept his advice and be governed accordingly.

The service of the medical profession is duty first; above all, it safeguards the interests of the public at all times. In order to properly carry out this program of safety, they must have the support of the communities in which they work and the cooperation of other professional men enlisted to insure the success of the educational work they have undertaken.

Yours Fraternally,

A handwritten signature in cursive script, reading "W. F. Bowen." The signature is written in dark ink and is positioned above the printed name of the President.

President, Kansas Medical Society

Topeka, Kansas
March 22, 1934.

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

ASSOCIATE EDITORS—R. T. NICHOLS, L. F. BARNEY, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, H. N. TIHEN, C. C. STILLMAN, ALFRED O'DONNELL, H. O. HARDESTY, I. B. PARKER, C. H. EWING, W. F. FEE.

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The Journal of the Kansas Medical Society is not responsible for statements, methods or conclusions presented in any article other than by the editorial staff.

Authors will submit copy typewritten on standard size paper and double spaced. Copy not prepared in this manner will be returned, if convenient. THE COST OF ILLUSTRATIONS WILL BE DEFRAID BY THE AUTHOR.

EDITORIAL

THE ANNUAL MEETING

The Seventy-Sixth Annual Meeting of the Kansas Medical Society will be held in Wichita, May 8-11, 1934. The first day will be given over to the golf tournament for the members and followed that night by a dinner for the participants.

The scientific meeting begins Wednesday morning, May 9, at the Allis Hotel. The program this year will feature 13 guest speakers of national and international reputation including: Doctors T. K. Brown, E. C. Ernst, L. W. Dean and C. M. MacBryde St. Louis; Louis Rudolph, Harry S. Gradle, K. A. Meyer and P. B. Magnuson, Chicago; E. V. Allen and L. A. Brunsting, Rochester; J. L. Jelks, Memphis; A. I. Folsom, Dallas, and

O. W. Bethea, New Orleans. The only paper by a member of the society will be the presidential address by Dr. Bowen.

The Allis Hotel has been designated as registration headquarters. General sessions as well as section meetings on Medicine and Allied Specialties and the Eye, Ear, Nose and Throat will also be held at the Allis. Section meetings on Surgery, Gynecology and Obstetrics will be held at the Hotel Lassen.

Of especial interest will be the scientific exhibits by members of the society. Commercial exhibits will also demand the interest of those in attendance.

Round-table luncheons will be held each noon following the morning programs. The visiting speakers will be guests at these sessions, and members of the society will act as chairmen.

Wichita is easy of access by train or automobile. There will be ample hotel accommodations for all.

Every member of the Kansas Medical Society should plan to attend this annual meeting.

PROPOSED FULL-TIME SECRETARY

In the January and February numbers of this Journal appeared the report of the special committee regarding the proposed plan of employing a full-time executive secretary. Arguments for and against the plan were presented by the committee members Doctors H. N. Tihen, of Wichita, and C. C. Nesselrode, of Kansas City.

The special report was made as a result of action taken by the House of Delegates at the annual meeting in Lawrence. The report was printed in the JOURNAL in order that every member of the society would have an opportunity of acquainting himself with the facts. Every county or district society should give consideration to this question at a regular meeting and

instruct their delegates as to voting on the question.

Regardless of the outcome, every member should accept the decision as being the wish of the majority membership. The members of the Kansas Medical Society may accomplish the greatest amount of good by working in harmony.

FOOD AND DRUG LEGISLATION

The Committee on Commerce has recommended the proposed food and drugs bill (S. 2800), with certain amendments be passed. The purpose of the bill as stated in the title is "To prevent the manufacture, shipment, and sale of adulterated or misbranded food, drink, drugs, and cosmetics, and to regulate traffic therein; to prevent the false advertisement of food, drink, drugs, and cosmetics; and for other purposes."

The present bill was introduced in the United States Senate February 19, 1934, and replaces the Tugwell-Copeland bill previously introduced by Senator Copeland of New York, which bill was subject to unfavorable criticism from many sources. The new bill will strengthen the original Federal Food and Drugs Act of June 30, 1906, popularly known as the "Pure Food Law." Since the original law was passed, many changes have occurred in the method of manufacture and the sale of food and drugs. There have been opportunities for certain unscrupulous individuals to profit by reason of such changes. Court decisions have also revealed certain textual weaknesses in the original law.

The proposed bill requires that drugs which are not specific cures be labeled as palliatives and "the nature of the palliative action." Certain drugs would be required to carry the statement "Warning—May be habit forming."

Cosmetics would be brought under the provisions of the regulatory law for the

first time. Cosmetics would be deemed to be adulterated if they contained "any poisonous or deleterious substance in such quantity as may render it injurious to the user . . ." or "it bears or contains any poisonous or deleterious ingredient prohibited, or in excess of the limits of tolerance prescribed. . . ." Recent reports of large numbers of cases of acute poisoning from the use of eye-lash dyes, show the necessity for this type of regulation.

The present law does not exercise control over advertising in the public press, by mail or over the radio. The public would be protected against questionable advertising if the proposed bill becomes a law, and undoubtedly certain types of advertising, especially over the radio, would be prohibited.

In the interest of further strengthening the law regarding food and drugs, and in addition exercising control over cosmetics and regulating advertising of these products, the proposed measure deserves the support of all members of the medical profession.

VENEREAL DISEASE INFORMATION

For a number of years the United States Public Health Service has been publishing, for the information of physicians, health officers, and others, a monthly abstract journal known as "Venereal Disease Information." This publication contains usually one original article on a subject of general interest in connection with the venereal diseases and numerous abstracts from the current literature pertaining to these diseases. In the preparation of this abstract journal more than 350 of the leading medical journals of the world are reviewed and abstracts made of the articles on this subject.

The cost of "Venereal Disease Information" is only fifty cents per annum, payable in advance to the Superintendent of

Documents, Government Printing Office, Washington, D. C. It is desired to remind the reader that this nominal charge represents only a very small portion of the total expense of preparation, the journal being a contribution of the Public Health Service in its program with state and local health departments directed against the venereal disease.—R.A.V.

EDITORIAL COMMENT

E. Mead Johnson, President of the Mead Johnson & Company, Evansville, Indiana, died on March 20.

More than 53,000 cases of syphilis were reported in New York State for the 12 months ending June 30, 1933.

The Merck Institute of Therapeutic Research has recently announced the appointment of Dr. Eugene Maier as Chief Bacteriologist.

The annual meeting of the American Association on Mental Deficiency will be held at the Hotel Waldorf Astoria, New York City, May 26-29, 1934.

New advertisers in this month's JOURNAL include: American Library Service, New York; The Central Building, Topeka, Hotel Lassen, Wichita, and Allis Hotel, Wichita.

The Public Works Administration has approved the application of the Board of Trustees of the University of Arkansas School of Medicine for an allotment of \$500,000 for the construction of an administration building.

According to a report by Registrar George O. Foster, of 2,647 men students who have enrolled at the University of Kansas since school opened last September, 567 state they have a preference for medicine as a profession.

As has been the custom for a number of years, the May issue of this JOURNAL will be the University of Kansas School of

Medicine number. The scientific papers will be furnished by members of the faculty of the medical school.

The National Safety Council reports that during the five-month period, September, 1933 to January, 1934, inclusive, 37 cities reported the accident rate to school children was 12.2 per 100,000 student days. The total enrollment was 490,000.

The *Journal of the American Medical Association* reports that as a result of the changes in laws governing benefits to veterans, the number of veterans of all wars receiving some form of pension had been reduced from 1,016,561 on March 31, 1933, to 517,171 on January 31, 1934.

Individual as well as community action is necessary to reduce accidents and consequent loss of life. The total of accidental deaths reported in 1933 in Kansas was 1,541. Provisional reports for last year for the United States place the number of accidental deaths at 89,500 persons killed; 8,500,000 disabled and with a wage loss of \$2,000,000,000.

The *Journal of the Iowa State Medical Society* reports that Dr. P. C. Jeans of the Pediatrics Department at Iowa State University, experimenting with 213 children, advances the theory that night blindness results from a deficiency in vitamin A, and that the condition may be promptly relieved by supplying an adequate amount of vitamin A to the diet.

The recently organized Committee on Appendicitis of the Medical Society of the State of Pennsylvania has arranged for a page of perforated warning stickers to appear in their April Journal. These stickers are to be attached to statements and other correspondence, and if all are used, 320,000 families will be reached with a message in regard to the prevention of appendicitis mortality.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

The Quantitative Wassermann

There is, perhaps, no portion of laboratory routine more confusing to the general practitioner than that part which deals with the quantitative analysis of blood. Aside from such obviously valuable determinations as sugar, urea, and CO₂ combining power of plasma, to which may be added in special cases, uric acid, creatinine, non-protein nitrogen, bilirubin, and calcium, the quantitative determination of blood constituents appears to be of more value to the research worker than to the physician whose interest in such matters must necessarily be limited by the question, "What can this test tell me about a given case?"

There is one type of analysis, however, which while generally overlooked can yield valuable and pertinent information on the treatment control of syphilis. Such a determination is the so-called "Quantitative Wassermann" or "Quantitative Kolmer," which reports the strength of the reaction in terms of units of reagin. Reagin is a chemical substance produced by the Spirocheta and is present, in detectable amounts, in the blood of patients suffering from syphilis. This reagin begins developing with, or before the appearance of the chancre and requires about three to four weeks to accumulate in sufficient amount to give a positive test, Wassermann, Kahn, or Eagle.

Briefly, the quantitative Kolmer, which is applicable only to four plus sera, consists in diluting the serum until a positive is no longer obtained and recording as the reagin titer the greatest dilution which will give a four plus reaction. Thus a serum reported as containing 60 units of reagin may be diluted with 59 times its own volume of physiological saline and still have a four plus Wassermann reaction.

The technical difficulties of the test are not serious, except that the antigens used must be highly specific and must retain their potency well, and that the technic must be rigorously standardized in order

that a series of tests on the same patient over a considerable period of time may be strictly comparable. The test is not satisfactory if the patient has had injections of arsenicals recently or has taken considerable quantities of alcohol within 48 hours before the blood is drawn; either of these conditions tends to lower the titer.

As for clinical applications, while the reagin titer is not, unfortunately, an index of the severity of the infection, Stokes (Modern Clinical Syphilology, first ed., p. 83) states, "The so-called quantitative Wassermann tests . . . are especially valuable in the management of patients under treatment, because they exhibit the 'therapeutic gradient' or degree of progressive serologic improvement obtained." In other words, a patient when first seen may have a titer of 120 units with reduction under treatment to 60 units, 40 units, 25 units, 10 units, and finally negative, while the usual Wassermann would give a strong four plus reaction on all but the last test, with possible discouragement of the patient. It is obviously an advantage to the physician to be able to report serologic progress during the treatment, particularly to evaluate the efficacy of various treatments, and to encourage the patient to continue treatment after clinical improvement has been especially favorable, but negative Wassermann tests have not yet been obtained.

— R —

Prof. Reuben L. Kahn, Sc.D., director of laboratories of the University hospital and assistant professor of bacteriology at the University of Michigan, was awarded the annual \$1,000 prize of the American Association for the Advancement of Science for his paper entitled "Tissue Reactions in Immunity," which presented experimental evidence of a new immunity principle. He reported that when an animal is immunized against disease, its body tissues such as skin and muscle acquire protective properties as well as its blood. Doctor Kahn had previously been honored for his internationally known Kahn precipitation test for syphilis. (*The Diplomat*, March, 1934.)

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

THE CONSTITUTION IN GRAVES' SYNDROME

These writers study the psychological background of a series of ten patients afflicted with Graves' Syndrome. They come to the conclusion that in the vast majority of cases this etiology is concerned with the constitution itself, and that it differs from the predisposing constitutions in other physical diseases in that it is not associated with gross external anatomical characters. They are not so concerned with the mechanism in the production of the illness although unquestionably the vegetative nervous system plays a large role. They attempt to differentiate between a mechanism and a cause, and state that the cause lies far anterior to any mechanism. They regard this cause as entirely psychogenic although they make no pretense at explaining why in one instance psychogenic factors will produce a Graves' Syndrome, and in another a pure neurosis. An appreciation of the personality is fundamental to the purposes of therapy and they deem it improper to discharge patients after a thyroidectomy without any consideration of the environment to which they return.

A Psychoanalytic Interpretation of the Constitution in Graves' Syndrome. Lorand, Alex, and Moschowitz, Eli. *Journal of Nervous and Mental Diseases*. 79:136-152. February 1934.

HEART DISEASE IN PREGNANCY

The writer summarizes the experience at the Brooklyn Hospital where the pregnant cases showing any cardiac difficulty are referred to the cardiac clinic. He writes on a summary of a study of 2,193 patients of whom 50 showed organic heart disease. The incidence of heart murmurs in pregnant women was 6.1 per cent of which 3.4 per cent were functional and 2.7 per cent were organic. Rheumatic heart disease causes about 90 per cent of the heart lesions. One-third of the cases of mitral stenosis decompensated while no case of uncomplicated mitral insufficiency decompensated. Most of the cases that did decompensate, did

so before the onset of labor and there was no relationship demonstrated between the months of pregnancy and the onset of decompensation. The mortality was 7.5 per cent.

Heart Disease in Pregnancy, a Preliminary Report. Lamb, Arthur E., *American Journal of the Medical Sciences* 187:177-184. February 1934.

NEUROLOGICAL PROBLEMS IN OPHTHALMOLOGY AND RHINO-OTOLARYNGOLOGY

Doctor Bennett prepared this paper for the Omaha-Council Bluffs Ophthalmological and Otolaryngological Society and makes a plea for the need of close cooperation and study between neuro-psychiatrists and ophtho-rhino-otolaryngologists. Under ophthalmology he calls attention to the neurological problems as presented in oculogyric crises, myasthenia gravis, myotonia atrophica, papilledema, tumors of the frontal lobe, tumors of the temporal lobe, migraine. Under those problems directly bearing on rhinology he cites instances of sinusitis, meningitis, and aseptic purulent meningitis. He makes mention of the desirability of removing tonsils in obscure nervous disorders when a definite focus of infection is found. In otology he calls attention to vertigo, deafness, suppurative intracranial disease of aural origin, as all being problems demanding the cooperation between otologists and neurologists. The paper in general is an excellent one showing the necessity for a cooperative practice, rather than assuming that one is entirely self sufficient in his own line despite how excellent a specialist he might be.

Neurological Problems in Ophthalmology and Rhino-Otolaryngology. Bennett, A. E. *Archives of Otolaryngology* 18:269-280. September 1933.

OSTEOMYELITIS OF THE ILIUM

This study from the Henry Ford Hospital is a summary and report of 24 cases of osteomyelitis of the ilium, 21 of which have been under the observation of the author for six years. Abstracts of these cases are given and the author goes into an excellent summary and presentation of the incidence, the age, a review of the literature, the developments, anatomy, etiology, diagnosis and treatment of this condition. He calls attention to the fact that chronic osteomyelitis of the ilium

has rarely been given consideration. The diagnosis is difficult to make because of the acuteness usually of the lesion and the severity of the illness of the patient, pain being the outstanding symptom. *x*-Ray is of little help in the acute case, though helpful in chronic cases. Treatment depends entirely on the stage of the illness, but in all cases is primarily a surgical procedure.

Osteomyelitis of the Ilium. Badgley, Carl E. *Archives of Surgery*. 28:83-124. January 1934.

TREATMENT OF INFECTED BRAIN WOUNDS WITH BACTERIAL FILTRATES

The writers report on the use of a bacterial filtrate made from a polyvalent streptococcus-staphylococcus mixture using it as a wash and local application to severely infected wounds of the brain, in five cases. In two of the cases the patients showed a marked improvement with such treatment though no improvement with irrigation and dressings with a surgical solution of chlorinated soda. Three of the patients showed no improvement and were later proved to have a deep or disseminated infection of the central nervous system. They think that the treatment is applicable to any infected, widely exposed area in which the infection has not burrowed deep into the tissue. Improvement should begin within four days if it is to be regarded as successful.

Treatment of Infected Wounds of the Brain With Bacterial Filtrates. Branch, J. R. B., Lempert, A. A., and Lyman, R. S. *Archives of Surgery*. 28:189-198. January 1934.

HYDROTHERAPY

The author briefly calls attention to some observations that he has made in the use of hydrotherapy in various types of illnesses, citing its temperature conducting capacity, its physiological and therapeutic effects, the influence upon metabolism and the effect upon the white blood cells. He stresses the fact that the use of hydrotherapy is a simple thing requiring no more equipment than can be found in almost any home. He stresses its use in fevers as an aid to maintaining resistance, combating toxemia, controlling temperature and relieving distressing physical complaints.

Hydrotherapy. Brownsberger, John F. *Southern Medicine and Surgery*. 96:1-3. January 1934.

Kansas Medical Auxiliary Ninth Annual Meeting

(Continued from Page 141)

Wednesday, May 9

9:00 a.m.—Board meeting. Innes Tea Room.

10:00 a.m.—Council meeting.

12:15 p.m.—Luncheon at the Innes Tea Room (75c) followed by Medical Auxiliary program. Open to all, whether Auxiliary members or not.

Mrs. James Blake, Hopkins, Minnesota, National President of American Medical Auxiliary, speaker of the afternoon.

Musical Program.

8:00 p.m.—Free movie for visiting doctors' wives. (Apply for tickets at Auxiliary headquarters).

Thursday May 10

10:00 a.m.—Board Meeting, Innes Tea Room.

1:00 p.m.—Luncheon Bridge at Wichita Country Club (75c). Contract and Auction will both be played. If you do not play bridge, come anyway. Bring your knitting or plan to spend a leisurely afternoon chatting with friends.

6:30 p.m.—Banquet and dance. (Details to be announced in Wichita).

Friday, May 11

2:00 p.m.—Drive to airport. Cars will leave from Hotel Allis.

LOCAL COMMITTEES

General Chairman—Mrs. Geo. Cowles.
Reception—Mesdames Hal Marshall, Chairman; C. R. Burkhead, J. W. Shaw, L. P. Warren.

Exhibit—Mesdames Fred McEwen, Chairman; Allen Olson, A. E. Bence, A. P. Gearhart, Earl Frost.

Entertainment—Mesdames Wilfred Cox, Chairman; F. L. Menahan, A. E. Friesen, George F. Corrigan, N. L. Rainey, L. F. Bowman, E. A. Pickens.

Decoration—Mesdames T. T. Holt, Chairman; C. R. Hepler, C. T. Hinshaw, V. L. Pauley.

Transportation—Mesdames Milton Nyberg, Chairman; E. E. Tippin, H. F. Hyndman, C. D. McKeown.

Favors—Mesdames G. A. Spray, Chairman; E. J. Nodurft.

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PRACTICAL MEDICINE SERIES, THE 1933 YEAR BOOK OF PEDIATRICS, Edited by Isaac A. Abt, D.Sc., M.D., Professor of Pediatrics, Northwestern University Medical School; Attending Physician, Passavant Hospital; Consulting Physician, St. Luke's Hospital, Chicago, with the collaboration of Arthur F. Abt, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School; Adjunct Attending Pediatrician, Michael Reese Hospital; Attending Pediatrician, Chicago Maternity Center; Attending Physician, Spaulding School for Crippled Children, Chicago. 548 pages. The Year Book Publishers, Inc., Chicago. Price \$2.25.

This volume presents in a clear concise form a resume of all of the most important articles on pediatrics appearing in the medical journals, both foreign and local. It is a valuable book for either the general practitioner or pediatrician.—P.E.B.

DIET IN SINUS INFECTIONS AND COLDS, by Egon V. Ullman, M.D., formerly special lecturer for Biology at the Oregon State College; Instructor at the First Medical Clinic at the University of Vienna, Demonstrator at the Laryngological Clinic (Prof. Hajek) at the University of Vienna, Assistant Physician at the Otolaryngological Clinic, (Professor Neumann) at the University of Vienna, member of the Research Staff of the State Serum Institute of Austria. Receipts and Menus by Elza Mez. The MacMillan Company, New York. Price \$2.00.

The subject matter is handled in a very simple and lucid manner. The author's claims of material benefit from special diet in cases of frequent colds and sinus disease, must necessarily be supported mainly by clinical evidence of improvement following a diet such as he advocates. This idea has been advocated by a number of clinicians, especially with regard to conditions in children.

The author gives advice as to the details of prescribing the diet to the individual case which makes it easy to follow, and does not leave the reader with too much of a general idea only, of the plan of therapeutic application.

There is a considerable amount of useful information available as to the general dietetic properties of a great variety of foods in use in the average locality, as well as well prepared diet lists and menus which may be prescribed.

As to the accuracy of the author's contentions for the value of his dietary therapy in the treatment of this special class of cases, one who has not tried it out

on a sufficient number of clinical cases, should not attempt to say.—F.C.B.

THE PRACTICAL MEDICINE SERIES, 1933—GENERAL SURGERY, Edited by Evarts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine, Surgeon in Chief of the Barnes Hospital and the Children's Hospital, St. Louis, Mo. The Yearbook Publishers, Inc., Chicago. Price \$3.00.

The 1933 volume of General Surgery contains 826 pages devoted to all phases of surgery from anesthesia, asepsis and antisepsis to operations on all areas and regions of the body. There are 38 sections with 229 illustrations. A review of the outstanding work of the year is brought out in this volume.

Among the many important articles are those on thoracic surgery, a field showing rapid advances. Another is Dr. Ewing's article on biopsy in suspected carcinoma of the breast. Another by von Panneintz on the treatment of 1500 cases of arthritis deformans by *x-ray*. Still another by Phemister on continued thyrotoxicosis after complete removal of the gland, showing we still have much to learn about the thyroid. Interesting cases on hypoglycemia produced by adenoma of the islet tissue of the pancreas are reported by Drs. Judd, Allan and Rynearson, Graham and Womack, their results following successful surgical removal are most dramatic. The entire volume is a valuable reference of the past year's surgical advances.—M.B.M.

THE PREGNANT WOMAN, by Porter Brown, M.D., The Eugenics Publishing Company, New York. Illustrated, 192 pages. Price \$2.00.

The author, a practicing physician in Salina, and a member of the Kansas Medical Society, has had a wide experience in obstetrics and gynecology, which well qualifies him to discuss the subject.

In the introductory the author calls attention to the fact that all of a woman's life from childhood to maturity is in preparation for marriage and childbearing. Therefore, intelligent, conscientious care and development of the functions and attitudes which make for wholesome marital life and healthy offspring should be every woman's goal. He states the purpose of the book "is to carry to every woman information about her physical welfare and her functions of reproduction." The open-

ing chapter is a discussion of common superstitions regarding menstruation and pregnancy. Other chapters discuss sex education for children; the anatomy and physiology of pregnancy and the diagnosis and general care of pregnancy; the complications of pregnancy, and the care of the mother and the new born infant.

Printed in large type, on excellent quality of paper; there are 22 illustrations. This is an excellent volume for the woman who wishes to have correct information regarding child-bearing.—E.G.B.

MEDICO-MILITARY SYMPOSIUM, 1934. Under the auspices of the Kansas City Southwest Clinical Society and the Medical Department, Seventh Corps Area, U.S. Army. General Hospital, Kansas City, Mo. Brown-White Company. Price \$1.00.

This book contains 50 abstracts of addresses presented on the well-balanced clinical program of the Society's Spring Symposium. The title is misleading, however, since abstracts of addresses on military subjects included in the program as presented are omitted from this volume. These include "Aviation Medicine," "The Relationship of the Army to Medicine," "The Medical Regiment," "The Medical Department," "What National Defense Requires of the Medical Profession" and other subjects designed to acquaint those in attendance with the specialties of military medicine and the problems and duties peculiar to the physician in military service in time of national emergency. The material included is well written and presents the important points in each address.—R.L.L.

PERSONALS—NEWS ITEMS

Parsons: Dr. A. R. Nash has moved to Kingman, Kansas.

Clifton: Dr. H. E. Potter is seriously ill at his home.

Humboldt: Dr. O. C. Payne is convalescing from a recent illness.

Caney: Dr. H. L. Aldrich attended the quarterly meeting of the state board of health, at Topeka, March 14.

Paola: Dr. P. A. Petitt attended the Medico-Military Symposium held in Kansas City, Missouri, March 13.

Garnett: Dr. T. A. Hood has been named as Anderson County Health Officer, vice Dr. J. N. Carter.

Manhattan: Dr. Darrell Evans has been appointed Riley County Health Officer, vice Dr. J. R. Mathews, resigned.

Minneapolis: Dr. Fred E. Harvey has been named Ottawa County Health Officer, vice Dr. J. F. Brewer, deceased.

Topeka: Dr. Paul Starr, of Chicago, was guest of honor at a luncheon given by the staff of the Menninger Sanitarium on March 5.

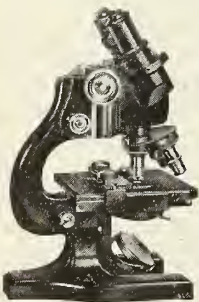
Manhattan: Dr. J. R. Mathews will remove to Glenwood Springs, Colorado, about April 15, where he will continue the practice of his specialty.

Clay Center: Dr. Robert Algie has been confined to his home by reason of several week's illness. It is gratifying to note at this time he is improved.

Ottawa: Dr. John R. Scott now of Alamo, Texas, in the Rio Grande Valley, judging from the extra fine quality of fruit he has sold to some customers in Kansas, has developed into a most excellent grape fruit farmer.

Clay Center: Dr. R. J. Morton because of illness was unable to attend the meeting of the local society held at the Municipal Hospital, March 21, a most unusual thing for Dr. Morton, as he has been a member

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and regular attendant for the more than 30 years the society has been organized.

Kansas City: Doctors L. F. Barney and C. C. Nesselrode attended the sectional meeting of the American College of Surgeons in Oklahoma City, February 22 and 23.

Kansas City: Dr. L. B. Spake sailed from New York March 15 on the U. S. S. Pennsylvania for a three-weeks' cruise to South America combined with attendance at the "floating congress" of the Pan-American Medical Association held on shipboard.

Kansas City: Wives of members of the Wyandotte society met for tea February 26 at the home of Mrs. R. C. Lowman and organized an auxiliary. Mrs. L. B. Gloyne is president; Mrs. O. W. Davidson, vice president; Mrs. W. H. McKeen, secretary, and Mrs. A. J. Rettenmaier, treasurer. Two teas have been held, with approximately fifty wives attending each.

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COUNTY SOCIETY NEWS

BROWN COUNTY MEDICAL SOCIETY

The Brown County Medical Society and Auxiliary met at the Moreland Hotel in Hiawatha for a seven o'clock dinner, February 23, with the following guests present: Dr. and Mrs. E. C. Duncan of Fredonia; Dr. and Mrs. C. L. Hustead and Dr. and Mrs. J. M. Greene of Falls City, Nebraska; Dr. Cordonier of Troy; and Hon. and Mrs. Lew Helvern, of Hiawatha.

Dr. Paul E. Conrad, acting as toastmaster, introduced Mrs. Conrad, president of the Brown County Auxiliary, who presented Mrs. E. C. Duncan, past president of the State Auxiliary, and chairman of the state organization committee; Mrs. W. G. Emery, president-elect of the State Auxiliary, and for four years state treasurer; Mrs. Edw. K. Lawrence, auxiliary councilor for this district, and Dr. W. G. Emery, past chairman of state auxiliary committee.

The toastmaster then introduced Dr. E. C. Duncan of Fredonia, past president of the State Medical Society, councilor for the Third District, secretary of the Wilson

County Medical Society, chairman of the Legislative Committee of the Kansas Medical Society, and Dr. R. T. Nichols, councilor of the First District, and secretary of the Brown County Medical Society.

After partaking of a dainty dinner the members and guests of the auxiliary went to the home of Dr. and Mrs. R. T. Nichols for a business and social meeting where they were joined by the members and guests of the county medical society, after their business meeting in the hotel. Very interesting talks were given by Hon. Lew Helvern on "The Courts and the Physician;" Dr. C. L. Hustead on "Hospital Management" and Dr. E. C. Duncan on "Our State Society."

Minutes of the last meeting were read and approved.

The Board of Censors reported favorably on the applications of Doctors Ray Meidinger of Highland, James D. Bowen of Whiting and R. J. Portman of Hiawatha, for membership in the county and state societies, and Dr. J. R. Heryford for membership in the county society only. Moved the secretary be instructed to cast the unanimous ballot of all members present for Doctors Bowen, Meidinger, Portman and Heryford for membership in our society. The ballot was so cast by the secretary.

Moved Dr. W. G. Emery be appointed a committee of one to investigate the procurement of Federal Emergency Relief funds for Brown County and to take the necessary steps to get our allotment.

We wish especially to thank Dr. and Mrs. Duncan. We phoned them at noon on the day of our meeting, and they made a 250 mile drive to be with us for the evening meeting. They came up in fine weather but had to drive home the next day in a regular Kansas blizzard which delayed them several hours, and made the trip home quite hazardous.

R. T. NICHOLS, M.D., Secretary.

BUTLER-GREENWOOD COUNTIES MEDICAL SOCIETY

Butler-Greenwood Counties Medical Society met March 9 in El Dorado in combination with dentists and druggists of the vicinity. "The Public Health Council of

Kansas" was the subject for discussion and drew a good representation from doctors, dentists and druggists locally and from cities at some distance.

April meeting occurs April 13 at the Country Club in El Dorado; another combined meeting of doctors, dentists and druggists for golf at 2 p. m. with a good program in the evening. All members of these three allied professions in our state are invited and urged to attend. This Council can be of great use to the professions and the public as well.

Guests were as follows: Fredonia, E. C. Duncan, M.D., M. M. Robbins, druggist; Marion, J. E. Tibbetts, D.D.S., Roy C. Simpson, G. J. Goodsheller, M.D., G. P. Marner, M.D.; Augusta, S. N. Mallison, M.D., Lisle R. Carr, druggist, Jas. A. Grant, druggist, J. M. Alley, D.D.S.; Burns, H. B. Lambom, D.D.S., E. S. McIntosh, M.D.; Kingman, H. E. Haskins; Howard, R. C. Harner, M.D.; Eureka, M. C. Cheney, D.D.S.; Whitewater, W. E. Regier, M. D.; Newton, F. G. Bartel, M.D.; Potwin, D. C. Stahlman, M.D.; Douglass, J. M. Wilson, druggist, C. A. Ogg, D.D.S., G. G. Whitley, M.D.; Wichita, Mac F. Cahal, secretary, Sedgwick County Medical Society, Hal E. Marshall, M.D., Fred S. Simons, M.D.; Augusta, R. S. Clark, M.D.; Leon, J. B. Seed, druggist, W. C. Westacott, D.D.S.

WM. E. JANES, M.D., Secretary.

DOUGLAS COUNTY MEDICAL SOCIETY

The program of the Douglas County Medical Society for March was, in the opinion of everyone who heard it, worthy of note.

Doctors V. M. Auchard and R. H. Edmiston arranged for the program and presented Dr. Don Carlos Peete who gave a clear and practical discussion on "Myocarditis, with Special Reference to Myocardial Damage Resulting from Influenza." Dr. C. G. Leitch followed the discussion with an outstanding demonstration of various pathological conditions of the myocardium and valves of the heart, and showed both gross and microscopic specimens. Doctors Peete and Leitch are members of the staff of the University of

Kansas School of Medicine.

RALPH I. CANUTESON, M.D., Secretary.

FORD COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Ford County Medical Society was held January 12, at the Lora Locke Hotel. Dr. C. C. Tucker, of Wichita, gave a paper on "Rectal Diseases."

The February meeting was also held at the Lora Locke Hotel, with 38 members and guests present. Dr. Conway, of Colorado Springs, was the guest speaker. He discussed "Endocrine Disturbances," with special reference to backward children. This was a subject somewhat away from the usual and was very interesting. The practical aspect of the conditions was gone into in detail and a very general discussion followed.

The committee of the Orthopedic Clinic reported as favoring holding the clinic once a month during 1934; it was so decided. The committee wished to make it clear to visiting physicians that this clinic is not a "Crippled Children's" clinic but an orthopedic clinic held for the convenience of the medical profession of this section, and of their patients and is a consulting and diagnostic clinic. All physicians are welcome to refer patients to the clinic which is held the second Friday in each month. Only patients referred by physicians are admitted, and it is requested that a history, x-ray and laboratory reports, if possible, be sent with the patient. The patients will be referred back to their physician with the Orthopedist's report.

C. L. HOOPER, M.D., Secretary.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met at the Gillett Hotel, March 5, 1934, at 6 p. m. After dinner, Dr. Arthur D. Gray, of Topeka, spoke on a number of urological questions. He called his talk, "A Little of This and That." A very interesting discussion ensued, lasting to a rather late hour.

Doctors Darrell Evans and Marjorie Eberhardt were voted into membership in the society. Dr. Roy Moser, of Westmoreland, was a guest.

WILLARD C. SCHWARTZ, M.D., Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, March 5, 1934. President Guy A. Finney was in the chair.

Dr. Paul Starr, assistant professor of medicine, Northwestern University Medical School, was the guest speaker and discussed: "The Treatment of Pernicious Anemia." Dr. Starr stressed the importance of keeping the red blood count at approximately five and one-half million.

There were 108 members and guests present.

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, April 2; President Finney in the chair. Minutes of the meeting of March 5 were approved.

The following program was given: Dr. J. A. Crabb, "Synergistic Bacterial Gangrene of the Abdominal Wall" (clinical case). Mr. Ross L. Laybourn, Bacteriologist in charge of the Public Health Laboratory discussed: "Problems in the Transmission of Bacterial Diseases."

Following a discussion of the question of the employment of a full-time executive secretary for the state society, the society voted to send the delegates uninstructed.

The paid membership of the Shawnee County Society for the year 1934 being 132, seven delegates were elected as follows: Doctors J. L. Lattimore, W. M. Mills, G. A. Finney, C. E. Joss, F. L. Loveland, M. L. Perry and Marvin Hall.

Visiting physicians included: Dr. A. J.

Chesley, Secretary, Minnesota State Board of Health, and Doctors W. G. Emery, Paul Conrad, R. T. Nichols of Hiawatha.

EARLE G. BROWN, M.D., Secretary.

SOUTHEAST KANSAS MEDICAL SOCIETY

At the regular quarterly meeting of the Southeast Kansas Medical Society which includes members of the county societies in the nine southeast counties of the state, the following program was presented:

Dr. John Caulk, St. Louis, Mo., "The Use of the Caulk Punch in Prostatic Bar Obstruction."

Dr. Herbert L. Mantz, Kansas City, Mo., "Tuberculosis as an Infectious Disease."

Dr. E. C. Duncan, Fredonia, Kansas, "Concerning the State Meeting in Wichita."

Following Dr. Duncan's talk the society voted unanimously to endorse the full time secretary plan for the state society.

Sixty-five members and guests were present at the meeting.

The society was invited to Parsons for the June meeting and accepted the invitation.

HOWARD E. MARCHBANKS, M.D., Secy.

WASHINGTON COUNTY MEDICAL SOCIETY

The regular meeting of the Washington County Medical Society was held at Hotel LeRoy in Hanover, Kansas, March 13, at 7 p. m. Members present: Doctors Rhoades, Hurtig, Wall, Smith, Snyder, L'Ecuier, and Bitzer.



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After a fine dinner the members adjourned to Dr. Rhoades' office where the regular meeting was continued. Dr. Rhoades was elected delegate to the state medical meeting, and Dr. Bitzer his alternate. Some of the important problems which were thought would come before the state society was discussed by the local members, so that our representative could get an idea as to the census of opinion of our county society.

Dr. L'Ecuyer opened the discussion as to the possibility of organizing a Washington County Auxiliary. Discussion was pro and con but no definite action was taken.

Dr. H. D. Smith told the society of the county health nurse and her plan of work at present in the county. We hope the good work will continue.

Doctors Burnaman, Smith and Bitzer were elected to make the necessary arrangements for entertaining the Clay County Medical Society, who will meet with us next month in Washington. Doctors Rhoades and Bitzer were instructed to obtain the out of town speakers.

On our regular program Dr. H. G. Hurlig presented a paper, "Man's Inhumanity to Man Makes Many Thousands Mourn." Dr. F. H. Rhoades also read a paper with a case report on "Undulant Fever." This very fine meeting was well rounded out by this time, and adjournment was next in order.

DONALD A. BITZER, M.D., Secretary.

THE WYANDOTTE COUNTY MEDICAL SOCIETY

Papers on "Allergy" by Dr. C. Omer West, "Leukocytosis in Carcinoma of the Stomach" by Dr. M. A. Walker, "Lacerations at Childbirth and Their Treatment" by Dr. H. V. Holter, and "Vomiting in Infancy" by Dr. D. N. Medearis were read

before the Wyandotte County Medical Society during the month of March.

A joint meeting of the Wyandotte County and Jackson County Medical Societies was held in Kansas City, Mo., March 13 at the Muehlebach Hotel. Doctors F. E. Wilhelm and O. W. Davidson presided.

The spring medico-military symposium held at General Hospital in Kansas City, Mo., March 12-17 under the auspices of the Kansas City Southwest Clinical Society and the Medical Department, Seventh Corps Area, U.S. Army, had good attendance from the Wyandotte Society and a number of Kansas men participated.

LEWIS W. ANGLE, M.D., Secretary.
—R—

BIRTHS

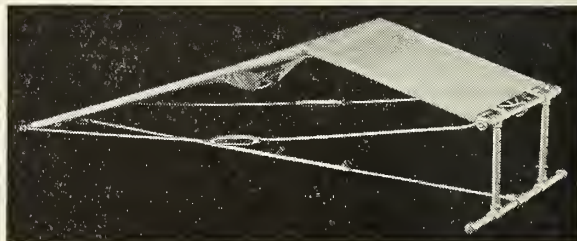
Ft. Leavenworth: Capt. Earl Maxwell, M.C., U.S. Army, and Mrs. Maxwell, February 21, 1934; a son Robert Dennis.

Leavenworth: Dr. and Mrs. Harry A. Gerber, February 4, 1934; a daughter, Kathleen Karlamay.

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DEATH NOTICES

BRADLEY, CHARLES CHITTEN, Dover, aged 66, died February 15, 1934, of cancer of the esophagus. He graduated from State University of Iowa College of Medicine, Iowa City, in 1890. He was not a member of the Society.

CARTER, ROBERT G., Chetopa, aged 87, died February 4, 1934, of disease of heart and kidneys. He retired from practice several years ago and was a civil war veteran. He was not a member of the Society.

GRAYBILL, J. W., Newton, aged 63, died March 24, 1934, at Junction City Hospital of double pneumonia contracted a few days before in Albuquerque, New Mexico. He graduated from College of Physicians and Surgeons, Kansas City, Kansas, in 1898. He was grand master workman for the A.O.U.W., former lieutenant governor and served as state senator from 1925 to 1929. He was a member of the Society.

O'BRIEN, DANIEL S., Beloit, aged 76, died February 12, 1934, of acute heart failure. He graduated from Rush Medical College, Chicago, in 1880. He was not a member of the Society.

STEELE, SAMUEL, Chanute, aged 63, died November 18, 1933, in the Research Hospital, Kansas City, Missouri, of arteriosclerotic cardiovascular renal disease. He graduated from Kansas City (Mo.) Medical College in 1896. He was not a member of the Society.

WESLEY, PARKER F., Haviland, aged 50, died February 19, 1934, of kidney stone. He graduated from Hospital Medical College, Louisville Ky., in 1905. He was a former member of the Society.

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KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

Excerpts From the March News-Letter of the Kansas Medical Auxiliary

Spring is here and plans are being made in detail every day for the big State Medical Society and State Auxiliary Convention to be held in Wichita May 8-11. Each county is to be represented by its president, one delegate and alternate for every five paid-up members or major fraction thereof, each auxiliary being entitled to at least one delegate and alternate, irrespective of the number of members. These delegates should be elected at your April meeting so they can arrange to attend the convention. Read Article VIII in the State Constitution and By-Laws. It is very important that each county send their delegates because they make up the Kansas Medical Auxiliary Council which will meet the morning of May 9. Your husband will soon receive the de luxe issue of the Sedgwick County Medical Bulletin which will contain the program in detail.

Mrs. E. C. Duncan, state organizer, and Mrs. E. J. Nodurfft, president, went to Kansas City, Kansas, February 26, where they were guests for tea of the Wyandotte

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County Medical Society. In spite of the thermometer registering 16 degrees below zero, over 40 ladies came to the beautiful home of Dr. and Mrs. Lowman. After talks given on auxiliary work the ladies decided to organize and our state vice president, Mrs. L. B. Gloyne, was elected president. This county auxiliary has a great future and will progress under the fine leadership of Mrs. Gloyne and her officers. February 27 Mrs. Duncan and Mrs. Nodurfth drove to Leavenworth to attend a luncheon at the National Hotel. Mrs. A. L. Suwal-sky was elected president and another fine auxiliary was added to the K.M.A. It was a pleasure to meet these ladies again, because we learned to know most of them last spring when the state meeting was held in Douglas county.

A most enjoyable luncheon meeting had been arranged by Mrs. W. O. Nelson, a lovely hostess, at Lawrence, March 2. A musical program was given by two of the wives of Douglas county physicians (Mrs. Powell, vocalist and Mrs. Anderson, accompanist.) After much talk and discus-

sion the women reached the decision to think over the organization of an auxiliary in their county until the next joint meeting of the men and women.

Mrs. Nodurfth writes: "We started out again at the urgent invitation of the Johnson County Medical Society, on March 12. A joint meeting of the men and women was held at a dinner given in Olathe. Our Auxiliary talk was approved and the president of the county medical society appointed Mrs. Elmer Beebe as temporary chairman. We sincerely hope Mrs. Beebe has all kinds of success and will be able to organize a fine auxiliary in Johnson county. On our way back to Fredonia, we contacted three physicians in Franklin county, two in Anderson, and four in Allen county. We hope each of these county medical societies give the auxiliary consideration and invite us to organize an auxiliary in their county."

Have you read the Auxiliary News in the February issue of the A.M.A. Bulletin? The Kansas Auxiliary was men-



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GYNECOLOGY
and
OBSTETRICS

Sections of
The Kansas Medical Society
CONVENTION MAY 8-11

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tioned, so we are on the way now. I hope each one of you will help us to continue this work because you are our inspiration and we cannot do this work without your help.

It's time your attendance record was coming in. Please refer to the November-December News-Letter and take care of this right away.

Thanks so much to the counties that have sent in their history. Our president-elect, Mrs. W. G. Emery, is writing The Kansas History and we hope to have it all finished before the convention. If you haven't sent yours in, please write Mrs. Nodurfth or refer to the January News-Letter.

The Crawford County Medical Society started on its way last evening with 24 paid-up members. Welcome Crawford!

A very delightful meeting of the auxiliary was held at the Hotel Allis, Wichita, on Tuesday, February 13. The officers of the state organization were entertained. Mrs. E. J. Nodurfth, state president, introduced Mrs. J. B. Carter of Wilson. Mrs. Carter is really the founder of the State Medical Auxiliary and was also the first president. Other members of the state organization present were Mrs. Alfred O'Donnell, Ellsworth, treasurer; Mrs. E. C. Duncan, Fredonia, state organizer; Mrs. W. G. Emery, Hiawatha, president-elect; Mrs. M. O. Nyberg, Wichita, secretary; Mrs. Wilfred Cox, Wichita, state Hygeia chairman; Mrs. F. W. Shelton, Independence, President of the Montgomery County Auxiliary, and Mrs. H. L. Stelle, Pittsburg, President of the Crawford County Auxiliary. The business meeting was preceded by a musical program by Prof. Roy Wall and students from Friends University.

Mrs. E. J. Nodurfth is to be complimented for her efficient work in our organization as an organizer of new auxiliaries and a rejuvenator of the old organizations.

CONVENTION HEADQUARTERS

Wichita May 8-11, 1934



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TRUTH ABOUT MEDICINES

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Mead's Viosterol in Halibut Liver Oil 250 D (in capsules)—Each capsule contains 3 minims of Mead's viosterol in halibut liver oil 250 D (*The Journal*, Nov. 18, 1933, p. 1634). Mead Johnson & Co., Evansville, Ind.

Ampoules Luminal Sodium Solution in Ethylene Glycol, 2 cc.—Each cubic centimeter contains luminal sodium (New and Nonofficial Remedies, 1933, p. 90), 2.5 grains, dissolved in ethylene glycol. The solution may be administered intramuscularly or subcutaneously. Winthrop Chemical Co., Inc., New York. (*Jour. A.M.A.*, January 6, 1934, p. 44).

Neo-Iopax.—Disodium N-methyl-3:5-diiodo-4-pyridoxyl-2:6-dioxylate. The disodium salt of N-methyl-3:5-diiodo-chelidamic acid. Neo-Iopax contains 51.5 per cent of iodine. Neo-Iopax is used as a contrast medium in intravenous urography. It has advantages over Iopax in that a smaller dose is required, the volume of solution injected is much less and the drug is excreted in the urine in relatively higher concentration. The use of the drug is contraindicated in patients with severe liver disorders, nephritis, tuberculosis or hyperthyroidism, and great

care must be exercised in cases of uremia. Caution must also be exercised in patients with any severe systemic disease. The product is supplied in ampoules containing solution Neo-Iopax, 20 cc. Schering Corporation, New York. (*Jour. A.M.A.*, January 13, 1934, p. 130).

Rabies Vaccine-Human (Semple Method) (New and Nonofficial Remedies, 1933, p. 373)—This product is also marketed in sets of two packages, the first containing four 2 cc. syringes and the second ten 2 cc. syringes. The National Drug Co., Philadelphia.

Diphtheria Toxoid—This product (New and Non-official Remedies, 1933, p. 385) is also marketed in packages of ten immunization treatments, consisting of twenty 1 cc. vials. The National Drug Co., Philadelphia.

Antimeningococcic Serum—An antimeningococcus serum (New and Nonofficial Remedies, 1933, p. 367) marketed in packages of two 15 cc. double-end vials with apparatus for intraspinal injection; packages of one 15 cc. cylinder with intra-spinal needle; and in packages of one 30 cc. double-end vial, with special intravenous and intraspinal needles and gravity outfit. The National Drug Co., Philadelphia. (*Jour. A.M.A.*, January 27, 1934, p. 292).

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outfit which comprises a cylinder with foot-ring yoke, valve wrench, rubber bag, rubber tubing, hose clamp and baby face inhaler. It is recommended for use with a mixture of 5 per cent carbon dioxide and 95 per cent oxygen. The merits of this machine seem to be its efficiency and practicability. It seems to meet all requirements except for the disadvantage arising from the necessity of changing tanks in order to vary the percentages of the gases given. The tanks, however, if available, can be changed within a very short time. In all of these machines designed for resuscitation of newly born infants, care must be taken to clean the mouthpiece and tube prior to insertion in the mouth and nasopharynx. Ohio Chemical and Manufacturing Co., Cleveland, Ohio. (Jour. A.M.A., January 20, 1934, p. 210).

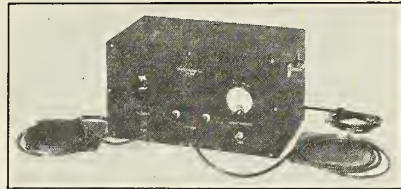
Propaganda for Reform

Albert Abrams Redivivus—The Bureau of Investigation has reported on the Micro-Dynameter which is an exceedingly impudent attempt to exploit anew the so-called electronic reactions of Abrams. The idea of special vibrations for different diseases can be found among the concepts of ancient centuries. But the engineer who would revive the Abrams doctrine has introduced new wrinkles, which must be the product of a training in engineering. The Micro-Dynameter of Mr. Ellis has been exhibited at a meeting of the Inter-State Postgraduate Medical Assembly. A few of the Physicians who derive their scientific pabulum through that organization have apparently invested in the device and thereafter been unable to find it of the scientific worthiness which at the time of investment it seemed to possess. Moreover, a so-called medical periodical, Clinical Medicine and Surgery, has aided promotion of the device through its advertising columns; indeed, Mr. Ellis flaunts a letter from the editor of that publication, Dr. George B. Lake, in support of his contentions. It seemed when the late Abrams passed from our midst that his cult would pass soon from the scene. Little has been heard of Abramsism since that time, yet now like a spirit from beyond the sepulcher emerges the Micro-Dynameter of Mr. Ellis, and a medical organization and a medical periodical are available to help rap the tables and shake the tambourines to assist the materialization. (Jour. A.M.A., January 6, 1934, p. 49).

Micro-Dynamics—The Bureau of Investigation reports that the "Micro-Dynameter," a device which apparently makes the diagnosis and treatment of disease purely mechanical, is put out by a concern known first as the Electronic Research Laboratories and now as the Ellis Research Laboratories, Inc. The man back

of the concern seems to be Mr. F. C. Ellis, who is not a physician. Mr. Ellis describes his Micro-Dynameter as a "New Mechanical Detector for Diagnosis and Precision Therapeutic Generator." The essential part of the Micro-Dynameter, so far as the physician who is supposed to use it is concerned, is the "Detector Scale." Readings are said to be made by means of a spot of light casting a vertical narrow shadow which travels along the scale "under the impulse of minute electric currents generated by a patient's body." The Micro-Dynameter is also used in the treatment of disease. After the instrument has been used to make the test of "vitality" and then the patient's "polarity" is

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measured, "the calculation of the treatment is made with the aid of a blue print of curves, which are calibrations of the instrument." Mr. Ellis is an electrical engineer without medical knowledge or training who apparently believes that he has reduced the diagnosis and treatment of disease to the simplicity of a nickel-in-the-slot gum-vending machine. The sale of such fantastic devices are actually a much greater indictment of that part of the medical profession that buys them than they are of the individuals whose names these devices bear. (Jour. A.M.A., January 6, 1934, p. 61).

Pro-Tek Not Acceptable for N.N.R.—The Council on Pharmacy and Chemistry reports that Pro-Tek is the proprietary name under which the DeVilbiss Company markets "a protective skin film" for workers' hands, also recommended for use on the face. The product is stated to be composed of soap (Ivory Soap Flakes), "free caustic," moisture, sodium silicate, and glycerin. If this were entirely a nonmedical article the name "Pro-Tek" would appear to be permissible under the Council's rules; however, it is also to be used as a protection to the skin against irritation, and through this becomes a medicinal agent that, to be made acceptable, must comply with the Council's rules for medicinal articles. The Council held that, while the product might be entitled to a coined name, this name must not suggest therapeutic properties and, further, that such a name should indicate the potent constituents of the mixture. Since the silicate probably plays the most important part in the action of the product the Council suggested that a name such as "Siliso Cream" would be acceptable. The firm informed the Council that conditions were such as to make it impossible to give up the name "Pro-Tek." The Council was therefore obliged to declare "Pro-Tek" unacceptable for New and Nonofficial Remedies because it is marketed under a therapeutically suggestive proprietary name and also without a declaration of the constituents on the label or in the advertising. (Jour. A.M.A., January 20, 1934, p. 211).

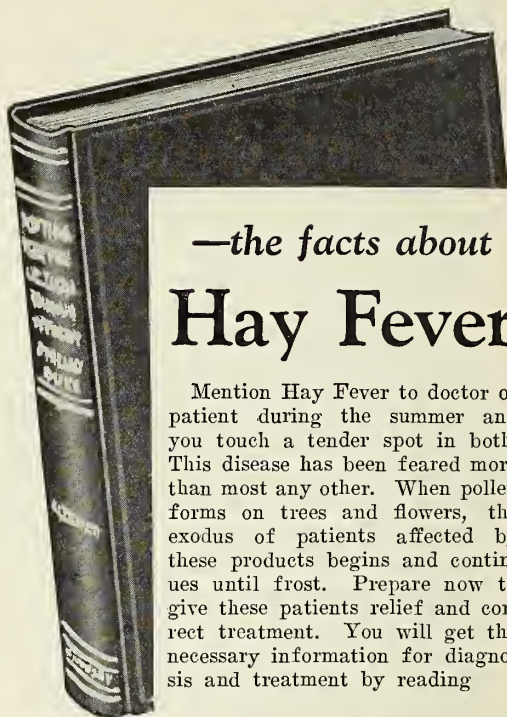
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No. 5

ORIGINAL ARTICLES

THE PATHOLOGY OF HYPERTENSION

H. R. WAHL, M.D.,* and

W. C. CURPHEY, M.D.†

The nature and causes of hypertension and its relation to renal disorders remains a mystery in spite of years of investigation. Studies of the cellular changes occurring in well differentiated types of high blood pressure may contribute eventually to the elucidation of this puzzling condition. It is for this reason that a microscopic study of the tissues from 92 selected cases of fatal hypertension was made and forms the basis of this communication.

All but two cases included in this study had a persistent blood pressure of 180 or over. They may be classified into four main types, based on the outstanding clinical symptoms and signs immediately prior to the fatal termination, viz, cardiac, apoplectic, uremic and convulsive. Of the 92 cases, 14 were of the uncomplicated cardiac type while 21 were similar but complicated with evidences of severe renal damage. The apoplectic group included 31 cases of which 22 were uncomplicated examples of cerebral hemorrhage while nine showed evidences of severe renal failure. There were 18 cases of uremic death included in this series. In addition there were eight instances of peculiar vascular crises with prominent convulsive symptoms, high blood pressure and extensive kidney disease. Several cases of toxemias of pregnancy were included in this group. In other words, the last two groups presented evidences of extensive renal failure while similar kidney damage

was evident in most of the cardiac (60 per cent) group and in the apoplectic group (70 per cent). From this analysis it is evident that of the 92 cases, 69 or 75 per cent showed abnormal urinary or blood findings indicative of renal damage.

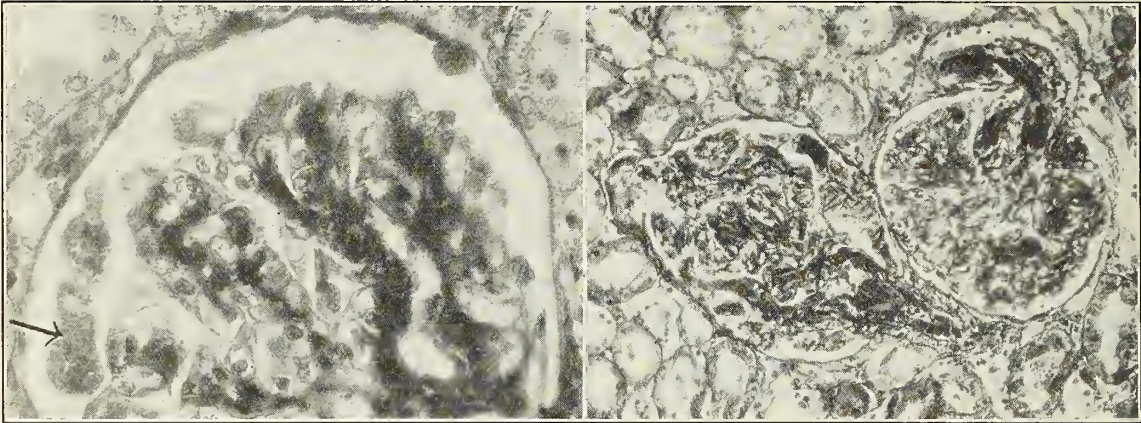
The microscopic study of the tissues of these cases shows a surprising similarity in the four groups though minor differences in the degree of changes may occur. The vascular apparatus shows the chief changes and they may be separated into two groups, one in which the lesions are chiefly glomerular and the other involving the small arterioles of various viscera such as the pancreas, kidney, spleen and adrenal glands. The clinical differences were not associated with corresponding anatomical distinctions. The changes were essentially vascular and varied only in degree. The same glomerular lesions were seen in the cardiac as well as the apoplectic cases, and the same alterations in the arterioles in the uremic as in the convulsive series.

The characteristic glomerular changes were the following: proliferation and swelling of the endothelial and epithelial cells of the tuft, hyaline droplet degeneration in the epithelial cells of the glomerular tuft, swelling of the basement membrane, infiltration with leukocytes and fibrin and crescent formation through proliferation of the capsular epithelial cells.

The arteriolar changes consist in swelling and proliferation of the endothelial cells, swelling and alteration in the staining of the internal limiting membrane and necrosis and leukocytic infiltration extending from the wall into the surrounding tissue (necrosing arteritis). Frequently a thick hyaline collar apparently encloses and almost occludes the lumen of the vessel. Often the markedly thickened walls of the smaller arteries are seen to

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†Department of Pathology.

GLOMERULAR CHANGES IN HYPERTENSION



A. Part of tuft x450. Note thickening of the basement membrane and hyaline droplets in the epithelial cells of the tuft.

B. Note the diffuse Fibrosis and thickening of the basement membrane, also hyaline changes in the arterioles. x 150.

be due to increase in collagenous fibrous tissue with even atrophy of the smooth muscle cells. This is strikingly illustrated by means of Masson's trichrome stain. These arteriolar changes are quite prominent in the afferent artery of the glomerulus especially in the cases of known glomerulonephritis such as in the uremic group. The thick hyaline collars were particularly prominent in the arterioles of the spleen, pancreas, adrenals and even in the meninges as well as in the kidneys in the nephrosclerotic cases.

Since atherosclerotic changes in the large and medium sized arteries have no constant influence on the blood pressure, they have not been included in this study even though they were present in most of the material studied. Frequently, they are well marked and the blood pressure is normal. The heart was hypertrophied in all of our cases, especially the left ventricle; the valves usually showed no organic changes.

While renal lesions involving the glomeruli and arterioles were almost always present it does not follow that the reverse is true. Advanced renal lesions involving both glomeruli and arterioles may occur without hypertension. One of the cases studied was particularly interesting in this respect. It showed rather advanced glomerular and arteriolar changes of a uremic case and yet in spite of several years careful observation never showed a

blood pressure of over 130. This illustrates that there is no constant relation between prolonged hypertension and glomerular and arteriolar lesions and affords support to the theory that another factor, possibly a blood toxin, causes both the anatomical lesions in the glomeruli and arterioles and the elevation of the blood pressure. Furthermore, while it is true that the arteriolar changes were present in the kidneys, pancreas and spleens of all cases of hypertension and a few without it, it is difficult to ascertain whether these changes are the cause or the result of the hypertension. It is more likely that they are both due to a common cause such as methylquanidin.

Another of these cases is of unusual interest, the clinical history being that of typical paroxysmal hypertension associated with the presence of a tumor of the adrenal medulla found at the autopsy. The tumor is known as a paraganglioma and has been reported recently in association with, if not the cause, of attacks of high blood pressure (in this case up to 240 Hg.) The study of the glomeruli and the arterioles in the kidney, spleen and pancreas show the same hyaline changes noted in other cases of hypertension suggesting that they follow rather than precede the hypertension and that the tumor is the cause of the functional disturbance in the vasomotor mechanism.

The convulsive cases deserve special

comment. They are often associated with spasmodic contractions of the arterioles which has been observed in studies of the behavior of vessels in the retina. It is quite possible that similar spasms of the cerebral arteries may occur and cause the convulsive seizures associated with hypertension. The glomerular changes and those in the arterioles of these vascular crises and pregnancy toxemias are very similar to those seen in other types of hypertension except that in the arterioles a necrosing arteritis in the meninges as well as in other organs may occur. It is quite probable that the same etiological factor is the basis of these convulsive types of hypertension as the others, only here the arteriolar changes are more acute and more likely to be associated with spasmodic or functional changes.

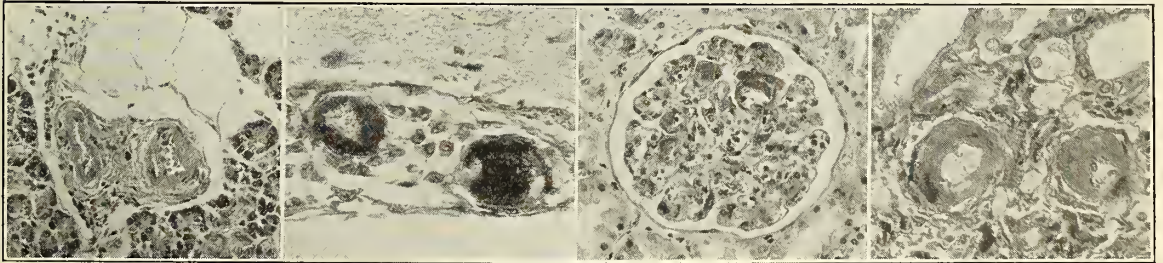
The study of these cases of hypertension also indicates that there is little difference between the pathogenesis of nephrosclerosis (chronic interstitial nephritis) and glomerulonephritis in both of which the blood pressure is considerably elevated. The main distinction is the predominance of the arteriolar changes in other elements in the kidney while in glomerulonephritis the toxic agent affects the glomeruli tubules and arterioles directly.

The recent experimental results of Goldblatt and others showing the persistent production of hypertension in dogs by gradual mechanical occlusion of the renal arteries is very suggestive in connection with this study. This is comparable to reduction in renal circulation and

production of ischemia similar to what would occur with arteriolar and glomerular disease such as was present in most of our cases. It would indicate that simple reduction in renal circulation such as was evident in most of our cases could in itself produce hypertension. On the other hand it does not exclude the presence of a toxic substance causing both a pressor effect on the vasomotor system and characteristic arteriolar and glomerular lesions. There is considerable evidence that persistent elevation of blood pressure will lead to hyalinization of arterioles and basement membrane thickening in the glomeruli but less evidence that these anatomical changes will cause hypertension. This work of Goldblatt, however, gives some basis for a reciprocal reaction.

The theory of Addis of the relation of kidney lesions to hypertension is quite convincing and seems to coincide with the findings in this study. Addis maintains that in addition to the constantly occurring factors which produce arteriosclerosis there is a third independent factor, toxic and irritating in nature, which may not only accelerate the existing vascular lesions and thus damage the kidney, but in many instances affect the organic tissues directly and in the same manner and with the same effect as is observed in glomerulonephritis. Furthermore, this agent may affect groups of arterioles in other organs such as the brain that would lead to a permanent change in the regulatory mechanism of the blood pressure. Again such a toxin may cause a generalized vasoconstriction by its direct irri-

ARTERIOLAR CHANGES



A. Hyaline collars in arterioles of kidney in the uremic type of hypertension. x 450.

B. Hyaline collars in arterioles in the meninges of the brain in a case of cerebral vascular crisis associated with hypertension x 450.

C. Hyaline collars in capillary tuft of glomerulus in a case of essential hypertension. x 250.

D. Hyaline collars in arterioles in pancreas. Same case as B. x 250.

tating effect on the arterioles and thus account for the acute vascular crises such as may occur in eclampsia.

In conclusion, it may be stated that the etiology of hypertension and the cellular changes in the glomeruli and arterioles is apparently the same. It would appear most likely that both are the result of the same common agent. At least this is the most plausible theory in the light of present information. This common agent may in a few cases be a paraganglioma of the adrenal gland which elaborates a toxic substance that is absorbed by the blood and exerts a pressor effect on the vasomotor mechanism. If the action of the common toxic agent persists it produces an anatomical change in the arterioles and glomeruli in sufficient amount to make the hypertension permanent even if the toxic agent disappears.

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—R—

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USE OF THE THOMAS WRENCH IN THE REDUCTION OF FRACTURES AND DISLOCATIONS.

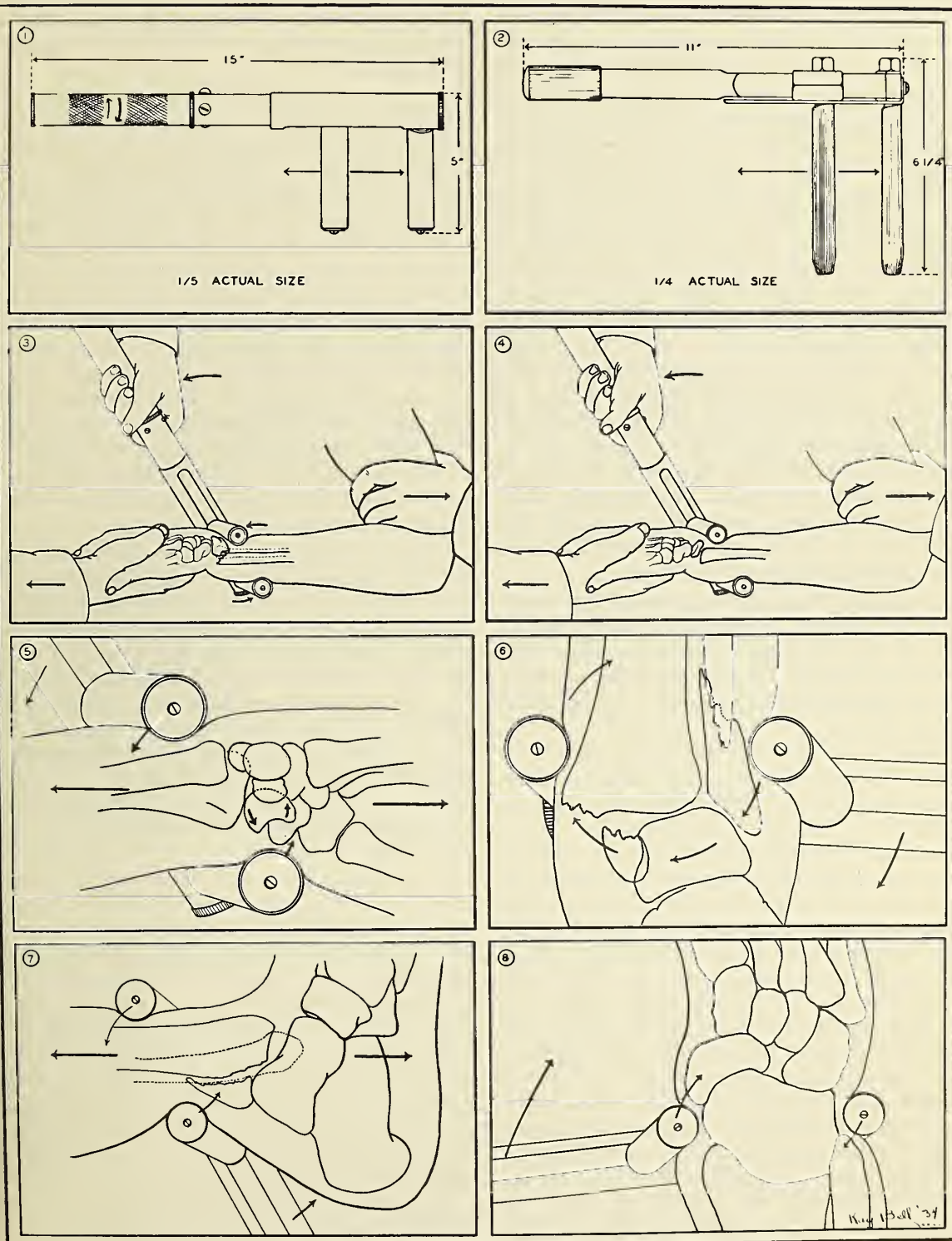
JAMES B. WEAVER, M.D.*

A very useful instrument for the reduction of certain fractures and dislocations, the merit of which is not generally recognized, is the Thomas wrench. This device is the result of the genius of Hugh Owen Thomas (1834-1891) whose leg splint was so extensively used during the World War and is known wherever fractures are treated. Thomas was the last of a direct line of bone setters of Liverpool, England, which had passed from father to son for seven generations. Incidentally he was the first qualified practitioner of this long line and had to sever his partnership with his father due to the English Medical Act of 1858. About 20 years later a young nephew, Robert Jones, became his associate and was taught the art of manipulative surgery.

While Thomas invented the Thomas wrench, it was his nephew, the late Sir Robert Jones, who popularized its use. Sir Robert is authority for the statement, "Unfortunately the use of this wrench is very imperfectly understood both in Great Britain and the United States." We once heard one of our beloved teachers, Dr. Royal Whitman, say, "Sir Robert Jones probably knows more about the use of the Thomas wrench than any other person in the world" and quickly, "but I am next." Those who know Dr. Whitman are aware that this was indeed high praise and clearly indicated that Sir Robert was a wizard in the use of the Thomas wrench. We were privileged to confirm this impression a few years later when on a visit to Liverpool.

The Thomas wrench is used most extensively for the manipulation of club feet and is frequently referred to as the Thomas Club Foot Wrench, or just club foot wrench. The mechanics of the wrench is simple. "It is made on the principle of a monkey wrench. Instead of the jaws two pins are substituted which are covered with thick rubber. By twisting the handle of the wrench, these two pins approach or separate from each other." Figure 1

*Department of Orthopedics.



shows the original type of wrench. Figure 2 is a type frequently found on the market, but not as efficient as the original model because the handle is too short for proper leverage, and the circumference is too small to furnish as good a grip.

There are a few fundamental principles to be observed in the use of the wrench. It should be screwed down firmly on the part to be manipulated so as not to slip. Pressure should be exerted for only a few minutes at a time, as long continued pressure might cause necrosis. The force exerted should be even and not applied in "jerks." We always cover the part where the wrench is to be applied with a towel to furnish protection to the skin. One must have a clear idea of the mechanics of the problem at hand. The knack of the use of the wrench and particularly the "feel" of the amount of pressure to exert is evidently an inherent quality plus experience and practice. It takes considerable skill to gauge the force correctly to enable the operator to break up adhesions without also perhaps fracturing a bone.

Fractures and dislocations at two sites lend themselves more particularly to the use of the Thomas wrench, namely, the wrist and ankle. We will describe some of these, illustrating by sketches taken from x-ray plates.

Figure 3 illustrates the method used in the reduction of a Colles fracture. The large majority of Colles fractures can be reduced by simple manipulation. However, one sees an occasional one with a very short radial fragment with more or less degree of posterior displacement. The fragment is so small that one cannot apply the proper force in the small area which is needed and in these cases the Thomas wrench works very nicely. One infrequently sees a fracture so strongly impacted that the wrench is required to break up the impaction. However, the largest group requiring the use of the wrench are those Colles fractures, with displacement, which have been neglected or efforts at reduction were a failure, and come in one to six weeks, and sometimes longer after the injury. If complete bony union has taken place, we feel the wrench is not indicated, in our hands, though Sir Robert had no hesitation in using it in this type.

However, if these fractures are still "green", manipulation by the wrench quite effectively breaks up adhesions and scar tissue and aligns the part. Manipulation of this type of fracture is carried out as follows:

With the patient under general anesthesia, an assistant grasps the hand to make extension. A second assistant makes counter traction at the flexed elbow. A towel is wrapped about the wrist and the wrench applied (Fig. 3). Assistant number one dorsiflexes the wrist, exerts steady traction against the counter traction of assistant number two, and gradually flexes the wrist. Meanwhile, the operator applies force with the wrench, as indicated in the sketch, one hand grasping the end of the handle of the wrench and the other steadying the pins on the part, and at the same time getting the "feel" of the amount of force applied. This procedure may have to be repeated several times, at the one sitting.

Figure 4 illustrates the method used in certain cases of slipped radial epiphysis. The majority of these can be reduced by simple manipulation, but one finds an occasional one that requires the use of the wrench. Here, again, our largest group of cases are the neglected or unreduced fracture. These are ideal for the use of the wrench; the mechanics of reduction being the same as in the Colles' fracture. We have never seen any abnormality of bone growth due to epiphyseal injury by this method.

In Figure 5, we have illustrated a dislocation of the carpal semilunar. These are quite easily reduced in the acute stage, but we all know that this injury is very frequently overlooked and consequently unreduced. If seen within two weeks after the injury, many of these can be reduced with the wrench, but after this period it is quite rare to succeed. Certainly, it does no harm to try to manipulate the semilunar into position, and, if this is a failure, extirpation can be carried out at the same sitting if advisable. It will be noted the principle is much the same as used in the Colles' fracture, except the force of the wrench is applied in a different manner.

We have never used the wrench to reduce an acute Pott's fracture. However, it

is very useful in the reduction of the neglected or unreduced ones, to stretch the contracted muscles and tendons, break up scar tissue and adhesions, and to lever the misplaced parts into alignment. The mechanics is obvious from a study of Figure 6.

Posterior marginal fractures of the tibia are quite difficult to reduce or to hold in place once reduction is accomplished. These fractures, therefore, form the largest group of those about the ankles on which we find the use of the wrench indicated. In the difficult acute ones the wrench works quite beautifully, and is very useful in the reduction of the neglected ones. In the chronic cases, we usually find it necessary to insert a Steinman's pin through the os calcis, for better traction to widen the ankle mortise in the longitudinal direction. The mechanics of this procedure is illustrated in Figure 7. This method is usually a failure if the period since injury is three weeks or over.

The conditions so far enumerated are the common ones where the use of the Thomas wrench is indicated. There are, of course, numerous isolated instances where one familiar with the use of the instrument will find it of value. We have illustrated one of these in Figure 8. This is a dislocation of the tarsal scaphoid of one week duration. Due to its size it was impossible to readily grasp the dislocated part. Pressure by thumbs, or heel of hand, was insufficient. Manipulation with the Thomas wrench, as indicated, easily reduced the dislocation.

We have not enumerated case histories and percentages of results because we are not presenting a new method of treatment, but one well over fifty years old, and used frequently by some of our most noted orthopedists. It has never been popularized, perhaps because its use has not been understood. Certainly some operators are far more skillful with the wrench than others. Orthopedic surgeons in general acquire more or less skill, but it would seem to us that any surgeon doing a fair fracture practice would do well to familiarize himself with the Thomas wrench and its use.

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CEREBRAL FAT EMBOLISM

R. W. KERR, M.D.*

Cerebral fat embolism is frequently overlooked in the study of cases of coma following trauma.

This case is a white male, injured while at work, sustaining a compound comminuted fracture of the left tibia and fibula. There was no evidence of a head injury at the time. Thirty-six hours later the nurse noted he was drowsy and irrational at times. The temperature was elevated, ranging between 101 and 106 degrees. The patient became comatose 72 hours after injury and remained in coma until his death four days later. Physical examination revealed some stiffness of the neck, increased reflexes, petechiae over the chest and upper extremities, also peculiar areas surrounded by hemorrhage were noted in the retinae. The findings did not change except for the development of signs of an extensive bronchopneumonia.

At autopsy, the body had been embalmed. Examination revealed a well developed male, showing a fracture of the left tibia and fibula. Numerous petechiae were found over the chest and extremities. There was some inflammatory reaction in the soft tissues at the site of the fracture. The lungs showed a bilateral bronchopneumonia. On opening the head, nothing abnormal was noted until the brain was sectioned. Here the entire cut surface of the white matter was dotted with small hemorrhages from one to three millimeters in diameter. A few were found in the gray matter of the cerebral and cerebellar cortex and in the basal ganglia. On staining the brain, lungs and kidneys with Sudan III many of the vessels were found filled with fat droplets. In the brain, there were frequently areas of hemorrhage and necrosis about the vessels and in places fat could be seen in the tissue about the occluded vessel. In the lung, many of the smaller vessels were found occluded by the fat droplets. There was also a well defined bronchopneumonia.

Death was evidently due to the changes

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in the brain with the bronchopneumonia playing an important contributory part.

DISCUSSION

Fat embolism may be divided into two types: (1) Pulmonary and (2) general systemic or cerebral. Vance defines fat embolism as, "The condition which occurs when a liquid fat or oil enters the circulatory blood and is transported in globules large enough to obstruct the lumen of blood vessels in different parts of the body." Gauss considers it is always due to trauma and cited three factors he believed should always be present: "(1) Injury to adipose tissue sufficient to liberate free fat into the injured area. (2) The rupture of a certain number of blood vessels, especially veins in the injured area. (3) The establishment of some mechanism which will cause the passage of fat into the open ends of the blood vessels." The first two of these may frequently occur but the latter is much more likely to occur in fractures because here torn vessels may be held open by the bony canals surrounding them and since they cannot collapse the negative pressure tends to draw fat into them. As fat passes into the blood stream, it tends to cause obstruction at the first capillary bed it meets which usually is the lungs. Frequently this occurs 24 to 36 hours after injury or subsequent mobilization. The symptoms at this time are restlessness, rapid feeble pulse, pallor, cyanosis, dyspnea, pulmonary edema and occasionally death occurs at this stage. In these cases, the pulmonary capillaries are usually filled with plugs of fat.

If the fat arrives in the lungs slowly or fat is not too extensive the milder pulmonary symptoms may occur and then gradually clear up as the fat passes through the capillaries or is absorbed. Some of the fat may be taken up by the large phagocytic cells of the lungs and expectorated.

As the fat enters the general circulation, a certain amount may be disposed of in the following ways, according to Gauss: "(1) It may be screened out in the kidneys and some of it passed in the urine; (2) secreted into the gastrointesti-

nal tract by the liver and bile; (3) taken up by phagocytic endothelial cells; emulsified by the blood current and digested by the blood lipases to be taken up again by the tissues."

Of the organs involved by the fat after its entry into the general circulation, the central nervous system causes the most clinical findings. Cases are reported of occlusion of the coronaries with resulting myocardial degeneration; others are reported in which the kidneys are mostly involved even with complete anuria.

Gauss shows that fat emboli may occur in all areas of the central nervous system, are usually associated with edema, hemorrhage, round cell infiltration and in areas focal necrosis showing total destruction of the myelin sheaths and are more abundant in the white matter. He also accounts for the symptoms; first, the irritability and delirium followed by coma as the irritation of the nerve cells, due to loss of blood supply followed by degeneration and necrosis, and suggests the possibility of a diagnosis of delirium tremens if the patient may have been given whisky as a first aid measure following injury.

An interesting case, which recovered, is reported by Corlette. The man received a compound comminuted fracture of the tibia and fibula. Twenty-four hours later he had lung findings with dyspnea and pulmonary edema. These symptoms cleared up in about 24 hours and were followed by convulsions and coma, associated with elevation of temperature, and petechial hemorrhages over the chest and extremities. The cerebral symptoms cleared up in about 72 hours and the patient made an uneventful recovery.

It is interesting to note how closely this history follows that of postoperative cases on which a diagnosis of postoperative reaction or pulmonary embolism is made. The fact that Vance finds operative procedures or any type of trauma to fat, such as bruises or severe jars, sufficient to liberate fat and produce embolism is worthy of consideration in many of these cases. The ophthal-

moscope is of value in the diagnosis of the cerebral type of fat embolism.

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THE REACTION OF TUMORS TO IRRADIATION

FERDINAND C. HELWIG, M.D.*

Considerable confusion exists regarding the determination of the radiosensitivity of tumors, the foremost instance of which is the fact that many physicians have taken for granted that cell differentiation alone determines the reaction of tumors to irradiation therapy. Unfortunately, cell differentiation represents only one of the important factors and in many instances, examples of which will be given, the cell differentiation of a tumor may not only be overshadowed by other findings but may be of no diagnostic assistance whatever.

Expected results of irradiation have often been disappointing due to this and other misinterpretations of the available information in a given case, with the result that confidence in the diagnosis of the degree of sensitivity of tumors to irradiation has often been badly shaken.

Some of the points to be taken into consideration which may lead to an apparent contradiction of the general law that the more embryonal the cell may be, the more sensitive it becomes to the action of radium and x-ray, are the duration of the tumor, the degree of fibrosis, the topographical relationships, the character of the tumor bed, and the gross physical characteristics of the neoplasm. In addition, the factors of secondary infection, previous irradiation and the general nutrition and age of the patient are of utmost importance in determining the response of a tumor to irradiation.

In a general way, it may be said that fibrosis, secondary infection, cachexia,

anemia and advancing age all tend to increase the radioresistance of a neoplasm. Since the location of a given tumor in many instances is of considerable importance in judging its radiosensitivity, it becomes at once apparent that every tumor must be considered as a distinct entity located in a certain area where neoplasms of that same class and character are known to respond to irradiation therapy in a fairly uniform manner.

As was previously mentioned, it is impossible to judge the response of a tumor by its cell type alone, and although in a general way anaplasia indicates sensitivity, this generalization is subject to many contradictions. Thus, the very undifferentiated neurogenic sarcomas and melanotic tumors are almost uniformly resistant to irradiation, regardless of their degree of anaplasia. The same holds true for certain undifferentiated epithelial malignancies such as the spindle cell epithelioma of the mouth which is very resistant while the same tumor may be quite sensitive when located posterior to the anterior palatoglossal fold (Stewart). Moreover it has been observed that the more highly differentiated carcinomas of the breast may yield the most marked regressions under irradiation. Likewise, the less anaplastic esophageal carcinomas, the mixed tumors of the parotid gland, and the fascial liposarcomas are more sensitive than the more undifferentiated tumors in these same regions. Such apparently paradoxical conditions exist throughout the whole gamut of tumors, and these illustrations merely suffice to emphasize how important it is to study thoroughly each individual neoplasm from every angle and the necessity of obtaining all of the available information about its life history, gross and microscopic characteristics and clinical associations, before venturing an opinion as to its radiosensitivity.

Furthermore, radioresistance of a given tumor does not necessarily imply that the tumor is incurable, nor does spectacular regression of an extremely radiosensitive growth by any means signify a good ultimate prognosis.

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In making a usable outline for the brief consideration of the reaction of different types of tumors to irradiation, it was thought best to group the tumors into systems. In certain instances this was not possible; as, for example, in considering the tumors of connective tissue origin. Myoma and myosarcoma of the uterus are also tumors of the female genital system and in reality should be considered in that group rather than in the general group of connective tissue neoplasms. Therefore, an attempt was made to harmonize the groupings as nearly as possible, considering in the connective tissue class those tumors of connective tissue origin which could scarcely be discussed regionally. In con-

structing this outline, I have drawn entirely from the findings of the Memorial Hospital as recorded by Stewart. Considerable difference of opinion exists in regard to the relative sensitivity of certain tumors and in some instances these ideas differ sharply from those arrived at by Stewart. My reasons for accepting Stewart's opinions are based on the fact that they are more comprehensive than any others that I have been able to find. This is due to some extent to his enormous material, careful and unprejudiced follow-up, long observation of cases, and the fact that he presents only the actual results of irradiation without unnecessary argument or speculation.

NAME	RADIO-SENSITIVITY	COMMENT
SKIN		
1. Basal cell epithelioma	Sensitive; resistance increases with adenocystic structure.	Very resistant when invading cartilage or bone.
2. Melanotic tumors	Very resistant.	In rare cases secondary skin implants may be sensitive.
3. Squamous cell epithelioma	Will be discussed under similar tumors of lip and mouth, where their reaction to irradiation is similar.	
4. For nevi, angiomas, etc., see tumors of lymphatic apparatus, and blood vessels.		
GASTROINTESTINAL TRACT		
1. Adult squamous cell epithelioma of lip, dorsum, tip and lateral borders of tongue, alveolar ridges, hard palate, buccal mucosa, pharyngeal vault, true vocal cords.	As a group, resistant. The spindle cell epidermoid carcinoma in these same locations is highly resistant.	Gross characteristics very important. Papillary type more sensitive. Tumors of long duration more resistant because of tendency to fibrosis.
2. Papillary carcinoma of the anterior floor of the mouth.	Relatively sensitive.	Grossly vascular fungating growth. Histologically somewhat anaplastic and poor pearl formers.
3. Epidermoid carcinoma of tonsil, base of tongue and soft palate.	Moderately to highly sensitive. Even spindle cell carcinomas are sensitive when located posterior to anterior palatoglossal fold. Rare glandular types are resistant.	There are three main cell types as follows: (1) varying degrees of adult squamous cell carcinoma; (2) transitional cell carcinoma; (3) lymphoepithelioma, which are sensitive in the same order.
4. Metastases of squamous cell carcinoma to lymph nodes.	May be either more or less sensitive than primary growth; usually slightly more resistant.	Fibrosis and liquefaction increase resistance. Also, when capsule is penetrated and surrounding tissue is invaded, they are resistant. Normal nodes much more resistant than those containing carcinoma.
5. Parotid and submaxillary tumors, and adamantinoma.	Moderately resistant. Adamantinoma highly resistant.	Mixed tumors more sensitive than adenocarcinomas. Submaxillary carcinomas are usually resistant and aggressive.
6. Esophageal carcinoma.	Resistant. Anaplastic tumors show less regression than well differentiated types.	Anemia, emaciation, perforation and fibrosis increase the resistance.
7. Gastric carcinoma.	Sensitive cases very rare.	At Memorial Hospital a few have shown palliative response.
8. Carcinoma of the colon.	Resistant.	A few of the large fungating cellular carcinomas are sensitive.
9. Rectum		
a. Carcinoma.	Majority resistant. Colloid and stenosing types very resistant.	Cellular infiltrating carcinomas regress but recur promptly.
b. Epidermoid carcinoma.	Response similar to these tumors elsewhere.	
c. Lymphatic tumors.	Sensitive.	
d. Melanotic tumors.	Very resistant.	
URINARY SYSTEM		
1. Kidney		
a. Carcinoma and hypernephroma.	Resistant.	Anaplastic metastases may be sensitive.
b. Epidermoid carcinoma of the kidney pelvis.	Uninfluenced by external radiation.	
c. Wilm's tumor.	Usually extraordinarily sensitive.	Recurrence is the rule.
2. Carcinoma of the bladder.	No accurate data.	Resistant to external radiation.

NAME

RADIO-SENSITIVITY

COMMENT

MALE GENITALIA

- | | | |
|--|-----------------------|---|
| 1. Prostatic carcinoma | Resistant. | No results except with interstitial radiation. Takes 7 to 12 skin erythema doses for any results. |
| a. Bone metastasis. | Resistant. | Poor results from irradiation. |
| 2. Testicle | | |
| a. Adenocarcinoma malignum. | Moderately sensitive. | Hopeless after metastasis. |
| b. Embryonal carcinoma with lymphoid stroma. | Very sensitive. | Both primary growth and metastases can be sterilized. |
| c. Adult teratoma. | Resistant. | |
| d. Choriocarcinoma. | Relatively resistant. | Hopeless after metastasis. |

FEMALE GENITALIA

- | | | |
|--|--|--|
| 1. Ovary | | |
| a. Embryonal carcinoma. | Quite sensitive. | Striking regression and massive resistant recurrence. |
| b. Granulosa cell carcinoma. | Sensitive if malignant. | Usually benign. If malignant, regression is usually followed by prompt recurrence and death. |
| c. Papillary cystomas. | Resistant. | Lower grades with implantations yield best results to radiation. |
| 2. Uterus | | |
| a. Corpus carcinoma (Healey & Cutler) | | |
| (1) Papillary malignant adenoma. | Resistant. | Growth superficial, entirely papillary. Some cured with simple curettage. |
| (2) Uterine glands long and papillary, stroma scanty. | Resistant. | Cure of groups 1, 2 and 3 depends more on accessibility to huge doses of radiation. |
| (3) Adenocarcinoma. | Resistant. | |
| (4) Diffuse solid anaplastic carcinoma. | Sensitive. | Very anaplastic. Prognosis bad. |
| (5) Adenoacanthoma. | Resistant. | |
| b. Chorioepithelioma. | Probably sensitive. | Too few cases reported to know. |
| c. Myoma. | Regression. | Response probably due to action on ovaries. |
| d. Myosarcoma. | Some cases regress. | Probably none are cured. |
| 3. Carcinoma of cervix | | |
| a. Fully adult and somewhat undifferentiated types. | Relatively resistant. | No relationship between sensitivity and cure with present methods of treatment where all tumors receive about the same dosage. |
| b. Diffuse transitional forms. | Sensitive. | |
| 4. Carcinoma of vulva and vagina. | Probably somewhat similar to carcinoma of the cervix since their structure is similar. | |
| 5. Carcinoma of the breast. | | |
| a. Intraductal adenocarcinoma or bulky adenoma malignum. | Sensitive. When capsule is penetrated they are resistant. | Irradiation accentuates tendency to spontaneous infarction. Irradiation effect not on tumor cell but blood supply. Irradiation causes atrophy and calcification. |
| a. Less cellular intracystic adenocarcinomas. | Sensitive. | |
| b. Comedocarcinoma. | Moderately sensitive. | Undergo calcification and necrosis. When cells penetrate the capsule they are resistant. |
| c. Diffuse duct carcinoma, so-called "inflammatory carcinoma." | Usually sensitive but incurable. | When a mass becomes palpable, they are less sensitive. |
| d. Small cell, highly malignant, duct carcinoma. | Very sensitive. | Metastasize widely and rapidly. |
| e. All other types of breast carcinoma are resistant. | | |
| f. Axillary extensions. | Often obtain excellent regression with irradiation. | At Memorial Hospital, 5 portals are radiated with 550 roentgens each. |
| g. Skin metastasis. | No relation to resistance of primary. | |
| h. Lung metastasis. | Resistant. | |
| i. Bone metastasis. | Often good palliative results with irradiation. | Pain may be greatly reduced. Fractures may unite. |

GLANDS OF INTERNAL SECRETION

- | | | |
|---|---|---|
| 1. Thyroid gland | | |
| a. Small cell carcinoma. | Resistant. Insufficient data with regulated dosage. | In some cases metastases in lung and bone have regressed following radiation of primary growth. |
| b. Large spindle and giant cell carcinoma. | Resistant. | |
| c. Papillary cystadenocarcinoma. | Some are moderately sensitive. | Some are probably not malignant. |
| d. Small round cell carcinoma—difficult to classify. | Resistant. | Have structure like a lymphosarcoma but do not involve glands. |
| 2. Adrenal gland. | | |
| a. Medullary carcinoma. | Unknown. | Usually widely metastasizing forms. |
| b. Small cell neurocytoma. | Very sensitive. | |
| 3. Thymus gland | | |
| a. Carcinoma. | Resistant. | |
| b. Group including lymphosarcoma, Hodgkin's, Sternberg type of hyperplastic tuberculosis, and endothelioma. | Sensitive. | Most of these tumors recur. |

NAME	RADIO-SENSITIVITY	COMMENT
4. Pituitary gland		
a. Adenomas of anterior lobe with pressure on intermediate and posterior lobe.	Good results from irradiation.	
b. Tumors of third ventricle and midbrain, and supracellar cysts show no response.		
ORBITAL AND BULBAR TUMORS		
1. Melanomas and neurosarcomas.	Very resistant	
2. Lymphomas.	Sensitive.	Some resistant.
3. Liposarcomas.	Moderately sensitive.	Recur.
4. Neuroepithelioma and retinal blastoma.	Regress.	Recur.
5. Retinal glioma.	Regress.	May cure very small tumors.
TUMORS OF CONNECTIVE TISSUE CLASS		
1. Liposarcoma (fat tissue)	Marked or moderately sensitive.	Some tumors of this general group are cellular, very sensitive but may rapidly metastasize.
2. "Fascial" sarcoma.	Highly resistant with some exceptions.	The origin of many of these tumors is uncertain. They may be neurogenic, lipogenic, periosteal or pure myxoid types.
3. Skeletal muscle		
a. Rhabdomyosarcoma.	Resistant.	Rare tumors—only a few cases at Memorial Hospital.
4. Joints		
a. Complex group ranging from liposarcoma through xanthosarcoma to endothelioma and perithelioma.	As a group, resistant.	Histologically, they may appear sensitive but irradiation treatment is unsatisfactory.
5. Bone		
a. Benign giant cell tumor.	Great majority quite sensitive. Large tumors of tibia and femur in older patients and those penetrating the capsule respond poorly.	With secondary infection or recurrence following curettage, resistance increases. Some cases malignant at onset; some become so after recurrence.
b. Osteogenic sarcoma.	Resistant with rare exceptions.	The highly vascular cellular types may regress under radiation but recur.
c. Endothelial myeloma. (Ewing's tumor)	Very sensitive.	Most cases recur. A few cases resistant.
d. Other types of myeloma.	Highly sensitive.	
e. Xanthomatous tumors. (Christian's syndrome)	Sensitive.	Membranous bone defects heal.
f. Liposarcomas.	Sensitive.	
g. Metastatic tumors.	Will be considered under primary tumors.	
6. Nerve		
a. Neurogenic sarcoma.	As a group, resistant.	Adrenal and retroperitoneal neuroblastomas are quite sensitive.
b. Glioma (brain).	As a group, resistant.	Best results in astrocytomas and medulloblastomas. Few cases of spongioblastoma multiforme have shown complete regression of symptoms.
7. Blood vessels		
a. Spidery angiectases (Stewart)	Highly sensitive.	Yield to small amounts of Beta radiation.
b. Port wine nevi.	Moderate resistance.	Respond well in the young; resistance increases with advancing age.
c. Hypertrophic hemangiomas.	Moderate resistance.	
d. Angioendothelioma (Kaposi)	Resistant.	Angiome neuromyoarteriel (Masson) is highly resistant.
8. Lymphatic apparatus		
a. Lymphangioma.	Highly resistant.	
b. Lymph nodes, spleen and bone marrow.		
(1) Lymphosarcoma (lymphoid reticulocyte types)	Highly sensitive.	A rare case unaccountably resistant.
(2) Lymphadenoma (Brill Symmers), and lymphatic and myelogenous leukemia.	Very sensitive.	
(3) Hyperplastic and pseudo-leukemic nodes.	Somewhat resistant.	
(4) Leukemic type Mickulicz disease.	Sensitive.	
(5) Hodgkin's granuloma.	Sensitive.	Sclerosing types may be resistant.

COMMENT

It is impossible in such a brief discussion to do more than touch upon the field of radiosensitivity. The only possible interest such a paper as this can have is to stress the fact that there is considerable accurate and valuable information on the subject, and that the best knowl-

edge obtainable has been so admirably presented by Stewart that anyone more than passively interested in the reaction of tumors to irradiation should avail himself of Stewart's monograph and study it with great care.

CONCLUSIONS

The radiosensitivity of tumors is dis-

cussed and several of the factors which determine this reaction are enumerated with particular emphasis as to the necessity of thorough study of each separate neoplasm from many angles before rendering an opinion as to its response to irradiation. An outline is given which summarizes very briefly the reaction of most of the well known tumors to irradiation and very brief comments are given in many of these cases in an attempt to emphasize some of the important facts regarding their reaction to irradiation.

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THE MANAGEMENT OF EMPYEMA THORACIS

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At the outset we wish to point out that this discussion is not meant to cover chronic non-tuberculous empyema. The treatment of chronic non-tuberculous empyema is almost entirely a surgical affair and the management is a problem in surgery.

Empyema commonly occurs as a complication or sequel of lobar pneumonia or bronchopneumonia. Less frequently it occurs as a complication of spontaneous pneumothorax, and an occasional case is reported as due to fusospirochaetal infection without pneumonia. The latter type of case is extremely rare.

DIFFERENTIAL DIAGNOSIS

Before entering into a discussion of treatment it is well to emphasize the importance of making sure of the nature of the empyema that is being treated. A careful study of the history will usually show whether or not the empyema is due to an acute pneumonia or trauma. If it is not due to acute pneumonia or trauma, careful bacteriological study may be necessary to determine whether or not it is a tuberculous empyema. Empyemata complicating spontaneous pneumothorax may be due to either tuberculous infection or to acute pyogenic infection.

A chest should never be subjected to open drainage without first being explored with the needle and study of the

pus made both grossly and microscopically. Stained smears will sometimes show tubercle bacilli even in the presence of acute pyogenic infection, and these cases should not be drained if drainage can be avoided.

PNEUMOCOCCUS AND STREPTOCOCCUS EMPYEMA

The ordinary empyema complicating pneumonia is usually found to be due to pneumococcus or streptococcus infection and it is this particular type of empyema which we wish to discuss first. The first impulse on making the diagnosis of pus anywhere in the body is to institute open drainage for it appears that the pus should be immediately evacuated.

EARLY DRAINAGE

Let us consider for a moment the effects of early drainage in acute pyogenic empyema. The patient at this time is usually quite ill with pneumonia. The heart is embarrassed by the toxic state; the pulse is rapid and often weak. If the underlying pneumonia is of the secondary or bronchopneumonic type the other lung will usually show considerable involvement and in any case the pulmonary involvement acts for a considerable decrease of vital capacity. Let us suppose that drainage is instituted at this early stage of the disease. Adhesions have not formed in the pleural space and if open drainage be made the result is a large and extensive pneumothorax, which further reduces the vital capacity—often to an alarming degree. Furthermore, the infection is thereby rendered a universal infection of the pleural space and the draining sinus, even if properly located, is very remote from a large portion of the draining area. Hence, perfect drainage is difficult in such cases and with the extensive pneumothorax and lack of adhesions to act as a basis for closure, ultimate closure becomes difficult and often utterly impossible.

The arguments against early drainage may be summarized as: (1) Marked toxemia; (2) reduction of vital capacity by pneumonia; (3) further reduction of vital capacity by a large pneumothorax,

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and (4) difficult closure because of the large pneumothorax.

What should be done with the early empyema? The answer lies in aspiration by means of syringe or—even better—a Potain aspirator. By aspiration of the pus the vital capacity can be increased so that the patient can breathe more easily. Furthermore, if the pus is withdrawn to a low level the amount of pleural membrane bathed in pus is lessened and the amount of absorption from the pleural membrane is thereby decreased. Again—if the pus be withdrawn to a low level and kept to a low level, adhesions wall off the pus with the formation of a smaller pocket and make drainage at a later date more feasible.

LATE DRAINAGE

Let us consider the advantages of late drainage. If drainage is delayed until the toxemia of the pneumonia has subsided the patient is not nearly so ill, the heart has recovered from the toxemia to a certain extent, the pulse is less rapid and the patient in a generally better condition for operation. Furthermore, the clearing of the lung has resulted in a definite increase of vital capacity so that the patient has much less difficulty in breathing. Again—the keeping of the pus at a low level by aspiration will have resulted in formation of adhesions at a low level with only a small pocket for drainage. The drainage of this small pocket does not result in a wide-spread pneumothorax with its attendant disadvantages, but gives only a small pneumothorax which does not embarrass the patient's respiration so much, does not spread the infection extensively in the pleural cavity and leads to much earlier closure of the sinus because the area to be drained is rather closely adjacent to the draining sinus.

The advantages of late drainage may be summarized as follows: (1) Toxemia has largely disappeared; (2) vital capacity has already improved through clearing of pneumonia, and (3) through early aspiration a small pocket remains which leads to only a small pneumothorax and to earlier closure of the wound.

It should be further emphasized that the drainage should be made through an opening of sufficient size to permit insertion of a large caliber tube and that the site of the incision should be over the lowest draining point of the empyema when the patient is in either erect or dorsal position. This usually necessitates drainage near the base in the posterior axillary line but occasionally an empyema is encapsulated between the lobes of the lung and in this case careful study of physical findings and roentgen rays is necessary to locate the best site for drainage.

Our experience with dilute formalin solution in the handling of empyema has been limited and altogether disappointing. The pain attending the injection of formalin has been so marked we have not had the courage to continue its use. Likewise, our experience with gentian violet has been limited, not because of any alarming reactions, but because of disappointing results.

The Mazingo method of closed drainage is a very appealing method but one that involves considerable apparatus and rather definite mechanical difficulties. Our experience with it has been limited, and, while we believe it to be useful in a great many cases, our inclination is to adhere to the old dictum of early aspiration and late drainage.

TUBERCULOUS EMPYEMA

The onset of tuberculous empyema is often very acute as a result of the rupture of a cavity into the pleural space in a case that is being treated with artificial pneumothorax. The symptoms in such a case are usually severe pain in the chest, high fever, marked prostration and utter loss of appetite. In other cases of pneumothorax a pleural effusion may be the forerunner of a tuberculous empyema and the conversion of a serous effusion into pus may be very gradual. In these cases the symptoms may be very mild or the patient may be even practically symptom free. In any case of empyema which is suspected of being tuberculous, drainage should be approached with great caution because, owing to the chronic nature of the tuberculous infec-

tion, drainage persists for a long time and closure is very difficult to obtain.

The toxemia of these tuberculous empyemas may be relieved to some extent by aspiration. Aspiration may result in needle-track infections with resulting discharging sinuses, but even these sinuses can be closed by careful management, compression of the chest wall, without open drainage. It is the practice of the Matson Brothers and Bisaillon to aspirate tuberculous empyemas completely, thoroughly cleanse the cavity with saline solution and inject five per cent oil of gomenol in liquid petrolatum. I have varied this practice somewhat by injecting from one to three cubic centimeters of pure oil of gomenol directly into some remnant of pus left in the chest at the end of aspiration. This may result in severe reaction with pain, chill and fever, but no alarming symptoms have resulted in any of the half-dozen cases so treated. Some of these have promptly become symptom free and the pus has become sterile and gradually changed from thick to thin pus and then to serum again. Two cases of six so treated have become completely dry and we consider this to be a cure of the empyema. Other cases have required further aspiration but at prolonged intervals and the fluid has been thin pus or serous fluid.

Altogether, we consider the oil of gomenol treatment of tuberculous empyema to be a very great advance in the handling of this difficult condition.

SUMMARY

1. Differential diagnosis between tuberculous empyema and acute infectious empyema is necessary for intelligent treatment.
2. Acute pyogenic empyema is usually best managed by early and fairly complete aspiration with late open drainage.
3. Tuberculous empyema should seldom be drained.
4. Oil of gomenol has very great value in the treatment of tuberculous empyema.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Idiopathic Hypochromic Anemia (Idiopathic Microcytic Anemia)

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The purpose of this paper is to call attention to a type of anemia which has been recognized as a clinical entity since the description by Kaznelson and Weiner in 1929⁶. This type of anemia was called cryptogenic Achylische Chloranämie by these authors, because of the absence of free hydrochloric acid in the gastric juices of their three cases. Since the original description numerous papers have been published under the following terms: Chronic Idiopathic Hypochromic Anemia, Primary Hypochromic Anemia, Erythro-normoblastic Anemia, Simple Achlorhydric Anemia, Essentielle Hypochrome Anämie, and Idiopathic Hypochromemia. The reason for our choice of Idiopathic Hypochromic Anemia is that this term was adopted by the National Conference Nomenclature of Disease in 1933, and in the University of Kansas Hospitals we are using this Standard Classified Nomenclature of Disease instead of the Bellevue Nomenclature which was used previous to this year.

Hypochromic anemia in adults is generally considered secondary to some other disease process, such as malignancy, infection, nephritis or hemorrhage. In fact, in the ordinary nomenclature (Bellevue) there is no recognition of the diagnosis of primary hypochromic anemia. This condition is obviously not chlorosis. The age distribution is entirely different, and furthermore chlorosis is frequently associated with hyperacidity in contrast to the anacidity found in this type of anemia. It is superfluous to add that before this diagnosis can be made, it is necessary to rule out other diseases which produce secondary anemia, especially gross or occult bleeding via the gastro-intestinal or genito-urinary tracts.

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All the writers agree the great majority of cases occur in females, and the fourth decade of life is the most common age group. Brown hair and eyes, said to be uncommon in patients with pernicious anemia, are fully as common in this type of anemia as blue eyes and brown hair. Although this disease picture was not recognized prior to 1929, cases are described in the literature which seem to belong here. In 1903 Einhorn⁴ in his discussion of the possible relationship of achylia gastrica to pernicious anemia describes what appears to be a typical case of primary hypochromic anemia; the red blood count was 3,680,000 hemoglobin 30 per cent, leukocytes, 10,200 and a normal differential count. He concluded, "Although the blood picture in this case was not typical of pernicious anemia he was unable to interpret the disease other than pernicious anemia." At that time achylia was not recognized as a factor in pernicious anemia; in fact this author made the hypothesis that the achylia might result from atrophic changes in the gastric mucosa after the anemia had been present for a long time, analogous to the changes in the spinal cord.

The symptoms are those of any anemia, the characteristic features being the chronicity, the tendency to remissions and the relapses brought on by mild infections or increased exertion. The gastro-intestinal symptoms are probably the earlier and most constant ones, namely: Belching, anorexia, colicky pain and diarrhea. The latter is very often severe, persistent, and quite annoying to the patient. The other symptoms are: Dyspnea on exertion, weakness and fatigue, loss of weight, and less frequently sore tongue, paraesthesias and menorrhagia. In fact, Dr. Russell Haden⁵ lists menorrhagia as a common symptom in achlorhydric anemia occurring in 10 of his 32 cases reported.

The signs obtained on physical examination are: Pallor, often quite marked, never associated with icteric tint as seen in pernicious anemia. The skin is quite often atrophic and inelastic. Occasionally changes in the tongue in the nature of Hunterian glossitis are found.

Witts calls our attention to peculiar alterations in the nails of the hands and feet of a few of his cases¹¹. These had typical hollow nails (koilonychia or spoon nails), so that a drop of water does not roll off when placed on the nail. The nails are also very tender and brittle. These changes disappear under treatment. Typical koilonychia have not been observed among our patients. Dameshek reports that the spleen is sometimes palpable², but splenic enlargement was not found in our cases.

Laboratory data: Gastric analysis shows complete absence or very low free HCl. Icteric index is usually lower than normal—blood serum rather pale. Blood findings: The hemoglobin is reduced more proportionately than the red count; that is, hypochromia of the red blood cells. Poly-chromatophilia and increase in reticulocytes are not ordinarily seen. The nuclei of the polymorphonuclear cells are usually many lobed, resembling the "pernicious anemia neutrophil." The lymphocytes are increased in relative number. Blood platelets are usually diminished during relapses and increased during remissions. Reticulocytosis during remissions may be as high as 10 per cent. Bone marrow biopsy: These findings were also described first by Kaznelson, Reimann and Weiner⁶, biopsies being obtained from the sternum; despite the severe anemia, the leukopenia and thrombopenia—all of which would make one suspect some degree of aplasia of the bone marrow—the bone marrow was crowded with nucleated red blood cells. In contrast to the large number of megaloblasts seen in the hyperplastic bone marrow of pernicious anemia, all the nucleated red cells found in their cases were normoblasts. Normoblasts were found as high as 30 to 47 per cent in contrast to the normal 20 per cent. Biopsy after iron therapy showed the normal number of erythroblasts.

Treatment: One of the most characteristic features of the disease is the rapid and dramatic response to large doses of iron. The preparation of iron is left to the choice of the physician, the most favored being reduced iron and green iron

ammonium citrate, either with or without copper. The most important factor is the dosage, the optimum dosage being from three to six grams of iron daily during a relapse of the disease. During remissions the iron should be continued as the liver therapy is continued in pernicious anemia. Kaznelson in his original article noted that iron does not produce a permanent cure, but only remissions as long as it is continued. It is the usual practice to administer dilute hydrochloric acid in addition to the iron, although it is generally agreed that the blood response is just as rapid without.

CASE REPORTS

Case No. 1—M. D., married woman, 44 years of age, first presented herself in the medical dispensary of Kansas University on June 19, 1933, with the chief complaints of gas on stomach, nervousness, shortness of breath on exertion, persistent diarrhea, and indigestion. These symptoms had not been continuous but had recurred at irregular intervals, until the last several months when they persisted all the time. Of the above symptoms, the gastrointestinal were the more distressing to her; the feeling of upper abdominal distress and belching of gas, together with the diarrhea made her feel that she must have something very serious wrong with her. There was nothing striking about her stools except that she noticed mucus occasionally; never had blood been noticed in her stools. She also stated that her menstrual periods were becoming more frequent—every 21 days—and that the flow was more profuse. The patient had been seen previously in the gynecological clinic where negative pelvic findings were reported. There was nothing significant in the history of past illnesses or family history of this patient.

Physical Examination: Slender, moderately well nourished, white female, 44 years of age, with an obvious pallor of the skin, sclera and other mucous membranes, did not appear acutely ill but was short of breath on exertion. Tonsils slightly enlarged, no adenopathy. Lungs and heart were negative. Blood pressure

106/60. The abdomen was flat; there was vague tenderness over the upper abdomen, but no rigidity, palpable organs or masses.

Laboratory and x-Ray Findings: Urine examination repeatedly negative. Red blood count 4,340,000, and hemoglobin 37 per cent. Because of the marked discrepancy between the number of red blood cells and hemoglobin, the count was repeated a few days later and the red blood count was 4,600,000 and hemoglobin 37 per cent. The white count was 8,600 with a normal differential count. Gastric analysis showed no free HCl in any of the four specimens taken at hourly intervals, and the highest total acidity was 5. Gastro-intestinal series and chest plate were negative for pathology, except for increased irritability of the colon.

Progress and Treatment: The patient was given reduced iron gr. XXX daily and dilute HCl gtts. XXV, t.i.d. with meals, and one month later the blood count was R.B.C. 4,190,000, 68 per cent hemoglobin, W.B.C. 8,650, polymorphonuclears 69 per cent, lymphocytes 29 per cent, eosinophiles one per cent, and monos one per cent. The patient was feeling stronger and was less dyspneic, but was still complaining of gas on her stomach and diarrhea. For this reason she was sent into the hospital for a more complete examination, especially with reference to the diarrhea, and her increased menstrual flow. Nothing additional was found in the hospital. Stool examinations were negative for gross or occult blood. Gastric analysis again showed absence of free HCl.

Pelvic examination by the gynecological consultant negative. The patient was dismissed from the hospital about the middle of October, 1933, and has been followed in the dispensary. She has continued to take reduced iron gr. X, t.i.d. and dilute hydrochloric acid drams one in tomato juice with her meals. One month after dismissal from the hospital and exactly two months after initiation of specific therapy the red blood count has risen to 5,120,000 and hemoglobin to 83 per cent; the white count and dif-

ferential remained normal. The diarrhea has subsided entirely, in fact, she now has to take laxatives occasionally. Her menorrhagia has also disappeared, the flow now being scanty and a few periods have been missed.

Subsequent blood counts:

December 14, 1933—Hgb 84 per cent; R.B.C. 5,050,000; W.B.C. 6,350.

January 29, 1934—Hgb 81 per cent; R.B.C. 4,220,000; normal differential.

March 19, 1934—Hgb 81 per cent; R.B.C. 4,160,000; W.B.C. 7,200.

Case No. 2—L. B., white female, 43 years of age, admitted September 19, 1933, complaining of anemia, shortness of breath, numbness of fingers and toes, and palpitation on exertion. She also complained of dizziness and gas on her stomach.

The physical examination was entirely negative except for the obvious pallor. Gastro-intestinal fluoroscopy negative for pathology and stool examinations were negative for blood or parasites.

Blood count on admission: 3,950,000, hemoglobin 45 per cent, color index .57, leukocytes 8,500 with 72 per cent polymorphonuclears.

The patient was given reduced iron gr. X, t.i.d. together with small amount of dilute hydrochloric acid and no other treatment. One month later the blood count had risen to 4,390,000, hemoglobin to 74 per cent, and color index to .84. The treatment was continued and two weeks later the red count was 4,830,000, hemoglobin 84 per cent and color index .87.

Case No. 3—F. B., white female, 30 years of age, came to the medical dispensary during the summer of 1933 complaining of gas, recurrent diarrhea, shortness of breath and weakness. The physical examination and *x-ray* studies were negative. The blood count was 4,120,000, hemoglobin 61 per cent, color index .7 and leukocytes 9,000, with a normal differential count. This patient was given Blands pills III, t.i.d. together with dilute HCl gtts X, with meals, and four weeks later the blood examination showed: 5,130,000, hemoglobin 74 per cent, and four months later the blood

count was 4,670,000 with 85 per cent hemoglobin. Her admission symptoms, epigastric distress, recurrent diarrhea, nervousness, and dyspnea had all disappeared, and she has continued in good health to the present time under iron medication.

DISCUSSION

The fact that this type of anemia is called primary or idiopathic is enough evidence that the etiological factor is unknown, but all agree that the achlorhydria is a predecessor of the anemia and a constant associated finding. Witts¹¹ and Mills⁸ both point out that there may be a relation between this type of anemia and pernicious anemia. It would seem probable that these two types of anemia are manifestations of a common defect, and this defect is achlorhydria, either congenital or acquired. One point in favor of this fact is the frequent occurrence of anemia after total or partial gastrectomy; both macrocytic and microcytic types of anemia occur but the latter is more common. In the male achlorhydria more often is associated with or produces a megalocytic (macrocytic) anemia; in the female a microcytic anemia. In both forms the bone marrow is hyperplastic, with the predominance of megaloblasts in pernicious anemia and of normoblasts in primary hypochromic anemia. Witts suggested that this inhibition to the normal maturation of the red cells in the bone marrow was due to the absence of a hormone produced in digestion by the healthy stomach.

Mettier, Kellogg, and Rhinehart proved that anemia in these patients was not due to iron poor diets. They reported 10 cases of primary hypochromic anemia in females. Three of their cases were put on iron diets very rich in organic iron, 16 to 20 mg., which is several times the normal amount of dietary iron. After 60 days on this diet, there was no material change in their red count or hemoglobin readings. Subsequently the same three patients were given six gm. of iron and ammonium citrate daily and they showed an average increase in hemoglobin of 30 per cent in one month. Kaznelson pointed out in his original paper that

iron was not only specific for this type of anemia, but also that it relieved the distressing symptoms of gastro-intestinal origin. He reported a case of a white female, 67, who consulted her physician because of severe diarrhea, belching, abdominal pain, and anorexia. These symptoms had been present off and on for 20 years, and there had been a 40 lb. weight loss during the year prior to admission. She was given reduced iron, gr. VISS, t.i.d. All of her symptoms were relieved in a few days, and improvement continued as long as iron was administered.

Kaznelson, Reimann and Weiner also made studies of the flora of duodenal contents of their patients, both in remission and relapse, as has been done in many cases of pernicious anemia. They found a sterile or very small bacterial flora in contrast to the prolific flora in duodenal contents of pernicious anemia patients. The only organisms found were enterococcus and non-hemolytic coli; and never did they find hemolytic coli. For this reason they concluded gastro-intestinal flora has nothing to do with the anemia.

Because of the fact that we have not been recognizing this type of anemia until the past year, we have reviewed 100 cases in which the diagnosis of achlorhydria alone was made. All cases in

which there was a possibility that the anemia could be secondary were excluded. The great majority of these cases had adequate x-ray examination to rule out ulcer or malignancy, and many showed negative tests for occult blood in the stools. No pernicious anemia cases were included.

It can be seen from the study of the data in Table 1 that women are more likely to develop anemia. There is very little difference as to sex under 30 years of age, but from then on there was a marked difference in the blood counts. Between the ages 30 to 40 the average hemoglobin in the men was 90.5 per cent and in the women 69.5 per cent; however, the difference in the red count was not so marked. Between the ages 40 to 50 the average hemoglobin in men was 83.4 per cent, and in women 70 per cent. Between the ages 50 to 60 the average hemoglobin in men was 84 per cent and in women 74 per cent, and above 60 years of age the average hemoglobin in men was 84.6 per cent and in women 72 per cent.

SUMMARY

1. Three typical cases of Idiopathic Hypochromic Anemia are described, with rapid improvement under iron treatment.

TABLE 1
Analysis of 100 Cases of Achlorhydria

Age Groups	Sex	Cases	Average			
			R. B. C.	Hb %	Color index	Leukocytes
Under 30	Male	5	4,870,000	86	.89	6,950
	Female	5	4,510,000	80.5	.89	8,900
30-40	Male	13	4,870,000	90.5	.93	7,250
	Female	12	4,180,000	69.5	.83	8,150
40-50	Male	9	4,590,000	83.4	.91	8,050
	Female	14	4,690,000	70	.74	6,850
50-60	Male	8	4,890,000	84	.86	7,750
	Female	14	4,265,000	74	.89	7,950
Above 60	Male	13	4,700,000	84.6	.90	7,100
	Female	7	4,850,000	72	.75	7,250

Analysis of 100 cases of achlorhydria, giving the blood counts with special reference to sex and age groups. Note: All of these cases were taken from the Bell Memorial Hospital records, and the primary diagnosis was achlorhydria—gastric analyses all showing complete absence of free hydrochloric acid after the fractional test meal. The majority had gastro-intestinal x-ray studies and stool examinations to rule out gross and occult blood loss, which might account for the anemia. Leukemias, pernicious anemia, menorrhagia, etc, are excluded from this series.

2. Idiopathic Hypochromic Anemia is a clinical entity as definite as pernicious anemia, and is a frequent source of illness in women between the ages of 30 to 50 years.

3. One hundred cases of achlorhydria are reviewed with special reference to the blood counts, comparing the sex and age groups.

4. If untreated, this disease is chronic, and may or may not show spontaneous remissions. The majority of writers believe that spontaneous remissions are not found.

5. The typical blood picture—microcytosis, hypochromia, low red blood count and low color and volume indices—together with the findings in the bone marrow both in relapse and remission, is described.

6. The symptoms—achlorhydria and response to iron therapy—indicate that the fundamental cause of the anemia is a deficiency in the absorption or utilization of iron.

7. That this type of anemia does not respond to liver therapy, speaks for the fact that it is entirely different from pernicious anemia and is further evidence for the specificity of liver treatment of pernicious anemia.

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CASE REPORTS

Non-Specific Prostatitis

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Chronic nonspecific prostatitis is one of the most trying maladies the physician is called upon to diagnose and treat. As it frequently happens, where little is known much is written; so in prostatitis, volumes have been written, most of which is chaff driven by the wind. A large percentage of patients afflicted with this disease are neurotic. Whether it is because of the disease or not is not always clear. Many of these chronic prostatitis cases are also sexual neurotics, and have temporarily lost their erectile power. To go into the historical background, the symptomatology and diagnosis in complete detail would cover more than my allotted time.

HISTORICAL

The various estimates from large numbers of patients studied range from 50 to 90 per cent that have had a gonococcus infection at some time prior to the onset to the chronic prostatitis. As this is about the average estimate of the incidence of gonococcus infection in males generally, I am one who believes that a gonococcus infection has nothing whatever to do with average non-specific prostatitis, even if the patient states that sometime, 10 or 20 years before, he had a gonococcus infection. However, I do believe that a history of other focal infections, such as infected teeth, tonsils, sinuses or hemorrhoids, have a marked influence on these conditions. I believe strongly that the practice of masturbation, so common among youth, is a factor in nonspecific prostatitis, to say nothing of the necking parties so frequently indulged in by our youth of today.

SYMPTOMATOLOGY

The symptoms are so numerous and varied that they may be considered as arising from three main causes: (1) By infection blood borne from foci to the

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prostate; (2) by toxins blood borne from foci in the prostate gland, and (3) by reflex nervous impulses originating in the prostate gland and resulting in pain at distant points as neurotic symptoms.

I shall present a case illustrating each of the above divisions. A man, 46 years of age, was sent by an ophthalmologist for a prostatic check-up to see if there might possibly be some connection between the eye condition and a possible prostatic infection. The man had an iritis of unexplained origin. His Wassermann was negative. He had never had a gonococcus infection. He had no symptoms referable to his prostate. He had no demonstrable focal infection in his teeth, tonsils, sinuses or hemorrhoids. Examination of his prostate revealed a moderate amount of pus in the expressed secretion, together with pus casts and strings of pus. The striking feature was that the iritis was made distinctly worse by the manipulation of the prostate incident to the examination. We waited until the eye condition quieted down before attempting further prostatic treatment. This illustrates a prostatic infection which gave the patient no symptoms other than an eye infection, but the prostate was acting as a distinct focus of infection. I believe that this is a quite uncommon occurrence, but it does happen often enough so that one must be careful not to overlook the condition in such cases.

The second group may be represented by the next case, which is a man, of the educator type, 39 years of age, married, who has been suffering from attacks of angioneurotic edema for a long time. He was sent to me by an internist who desired a careful check of his prostate (I think it is of more than passing interest to note that five years before, I removed a very large hyperplastic type of prostate from this man's father). The patient had not had any edematous attacks for sometime prior to the time of my examination. He was apparently in a quiescent stage. I made the usual examination and found the prostate very large and boggy and the secretion expressed was almost purulent. Within an hour of

the time of that manipulation of the gland he had an attack of edema and his lip swelled to enormous size and he became quite ill. It required a six months course of treatment to cure this patient. He has been well for over 18 months.

Another case which will illustrate the third group, is that of a married man, 47 years of age, who became enamored of his secretary, and who then found he had lost his virility. Numerous unsuccessful attempts at sexual relations caused so much congestion of his prostate that a severe nonspecific prostatitis ensued. He came for the relief of the loss of erectile power. Of course, like most cases of "lost manhood," not due to advancing years, this was a mental state. In dealing with such cases one sometimes needs the aid of a trained neurologist.

There are many other types of this disease beside the three mentioned, but in general these will serve as examples. That chronic nonspecific prostatitis is a forerunner of prostatic enlargement in later years, there can be no doubt. That nonspecific prostatitis has any connection with previous gonococcus infection, I believe, has never been proven.

A word as to treatment: (1) First, and most important, is a complete physical examination with special reference to focal infections, including hemorrhoids and their eradication. (2) The use of some foreign protein intramuscularly. (3) The urethra must be examined with a urethroscope for stricture and dilatation with the Kollman dilator instituted. (4) Prostatic massage never more often than twice a week and once a week is better. (5) Heat locally, in fairly severe cases, hot sitz baths twice a day are of value. (6) Tonics containing appropriate vitamins to build up general health.

Whenever one gets to the place where the progress of a cure seems halted, one must stop all treatment and ask the patient to return in six weeks. Sometimes the result is surprising, since the patient goes on and gets well when left alone. Prostatitis cases in general are very trying because the average busy practitioner gets tired of trying to take care of a patient who frequently is non-coopera-

tive and unappreciative of the effort being put forth to cure him. He thinks he ought to get well in some miraculous manner and as a rule he is never treated for sufficiently long time to get well.

The Mechanisms of Polyuria in Diabetes Mellitus and Diabetes Insipidus

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It is an interesting fact that the polyurias of diabetes mellitus and diabetes insipidus are due to entirely different mechanisms. The two diseases have the common basic name, "diabetes," indicating the excretion of an excessive quantity of urine. Beyond that point, with the exception of thirst, there is no resemblance between the two diseases. The available textbooks of medicine contain nothing explanatory of the polyuria of either disease. The urine in diabetes insipidus is of low specific gravity, contains no sugar, and there is no elevation of blood sugar. In fact, the blood sugar in this disease may be lower than normal. In untreated diabetes mellitus the specific gravity of the urine is increased, it contains sugar, and the glucose in the blood is always above the normal level.

We wish to present an illustrative case of each disease as observed in children of approximately the same age, and to follow with a brief discussion of the theories relative to the polyuria seen in these cases.

Diabetes Insipidus: Case A. Z. (Hospital No. 48740) is a white school girl, age 12. She was first admitted to the hospital in August of 1932, with the chief complaint of polyuria and polydipsia. The onset of this trouble was in 1931 when the patient was nine years old. It was not known whether it began gradually or abruptly. She suffered from great thirst, polyuria and loss of weight, which were progressive until the time of her entrance into the hospital one year later. She drank large quantities of water frequently. There was a diurnal

and nocturnal polyuria. Enforced restriction of water decreased the daily output of urine to an undetermined extent, but made the patient suffer extreme thirst, with dry mouth and lips. At the time of her first admission she was getting up as many as ten times between 8:00 p. m. and 6:00 a. m. to pass her urine. She recently has been admitted to the hospital a second time (March, 1934). Since her previous admission nearly two years ago she has taken one-half ampoule of pituitrin intranasally morning and night. There has been complete relief of symptoms. She has gained 14 pounds and has grown three and one-half inches taller. She is now 56½ inches tall and weighs 71 pounds, which is the normal average for girls of her age.

The personal and family history, as well as the physical examination, are entirely negative.

The laboratory findings after administration of pituitrin are as follows: The urine acid in reaction, specific gravity 1.012, and negative for sugar and albumen. Blood count and hemoglobin normal. Nonprotein nitrogen is 28.5, creatinine 1.3, and sugar 87. Wassermann and Kahn are negative. Glucose tolerance and renal function tests are normal. *x*-Ray of the skull shows no abnormality. Ossification centers in the wrists are consistent with the age of the patient. The basal metabolic rate is plus 41, a fact frequently observed in this disease, but as yet unexplained.

When taking no pituitrin the daily fluid intake is 8,000 cc. (266 ounces) and the urine output 11,000 cc. (366 ounces). The child voids 300 to 500 cc. (10 to 16 ounces) every one to two hours, and has to get up frequently during the night. When taking one-half ampoule of pituitrin intranasally morning and night she does not get up at night; the 24 hour urine output is 2,900 cc. (96 ounces) and the fluid intake is 3,400 cc. (113 ounces).

Diabetes Mellitus: Case D. H. (Hospital No. 48489) is a 13 year old white school girl admitted to the hospital with "sugar diabetes." She was diagnosed as

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diabetes one year ago by her local physician. At that time she was suffering from polydipsia, polyuria, nocturia, and weakness, and also had an acetone odor upon her breath. Her blood sugar was found to be 192 mg. per 100 cc. and her urine sugar free. It was deemed advisable to put this patient on a high carbohydrate diet adequately covered with insulin, upon the assumption that this procedure would prevent further insult to the remaining normal pancreatic tissue. Therefore, she was fed 400 grams of carbohydrate, 120 grams of protein, and 120 grams of fat, daily, along with 45 units of insulin. Under this regime, however, the blood sugar was constantly over 200, and sugar was always present in the urine. The diet was reduced to 150 grams of carbohydrate, 25 grams of protein and 50 grams of fat, daily, with 35 units of insulin distributed as follows: 15 before breakfast, 15 before supper and 5 at 2:00 a. m. During her stay in the hospital she was taught to compute her diet, to properly administer insulin, and to analyze her urine for sugar. She was dismissed after a two weeks' stay with the blood sugar within normal limits and the urine sugar free.

The following table gives the summary of laboratory findings and fluid status, recorded at an eight-day interval:

	TABLE 1		
	March 2, 1934		March 10, 1934
Sugar in mg. per 100 cc. of blood.....	227		172
Total water intake in 24 hours	3,100 cc.		1,425 cc.
Total 24 hour urine output	4,910 cc.		1,100 cc.
Total 12 hour urine output, 10 a.m.-10 p.m.	3,495 cc.		900 cc.
12 hour output of sugar in urine	20.9 gms.		none
	C P F		C P F
Diet	400-120-120		150-25-50 (50)
Insulin	U 10-10		U 20-20-5

Table 1 illustrates the fact that the daily quantity of urine decreases simultaneously with the reduction of sugar in the blood and urine through the effect of insulin.

DISCUSSION

The kidneys have many important functions in addition to urinary excretion. They maintain osmotic balance between the tissues and the blood, keep the constituents of the plasma at an optimal concentration, eliminate waste products, maintain blood volume and blood reaction constant within narrow limits, and eliminate acids and toxins. The mechanism involved in renal function is not yet fully understood. The theory¹ of urinary excretion generally accepted by physiologists is as follows: the glomeruli act as simple filters, allowing the passage of a fluid into the tubules which differs from the blood plasma only in its lack of proteins. This process is a physical one regulated by the glomerular pressure, rate of flow of blood through the kidneys, composition of the blood, and character of the glomerular epithelium. According to Cushny the glomerular filtrate is modified by a process of differential absorption as it passes through the tubules. Thus, sugar undergoes complete tubular resorption, while such substances as creatinine and sulphates are concentrated about 80 times. Water is re-absorbed as needed to maintain a constant blood volume. If the tubules simply absorbed water from the glomerular filtrate the concentration of substances in the bladder urine and plasma would be identical. Simply stated, the glomeruli act as filters barring only the passage of plasma proteins while the tubules sort out the constituents of this filtrate, re-absorbing some, and concentrating others to form the urine as we find it in the bladder, very different in composition from the plasma. We have found in children of 10 to 12 years of age that the average daily fluid intake is 1,800 cc. (60 ounces) with an average daily urine output of 2700 cc. (90 ounces). Both values normally vary over a wide range.

In diabetes insipidus there is an excessive excretion of dilute urine, with faulty absorption of water by the tubules, other blood constituents being normally absorbed. The direct cause of the polyuria, however, is more obscure and may

be attributed to one of several factors which were summarized by Fitz². It is his idea that polyuria results from the failure in the function of the kidney to concentrate urine. He states that the cause of the polyuria may be primary in the kidney, and explain the polydipsia. A further explanation is the possibility that the polyuria is symptomatic, being induced by stimulation of the kidney from hypersecretion of the hypophysis.

Wright, however, takes the opposite view. He finds good evidence that the pituitrin acts by stimulating the epithelium of the convoluted tubules to increased absorption. He feels, therefore, that faulty absorption of water by the tubules is the mechanism of polyuria in diabetes insipidus. There is no evidence that pituitrin acts by altering the blood supply of the kidney. It does, however, cause an increased renal activity as the oxygen consumption of the kidney is notably increased following the administration of pituitrin.

It seems to us, however, that the two foregoing apparently differing opinions of Fitz and Wright are not inherently at variance because they both consider faulty absorption of the urine by the kidneys as the fundamental cause of the polyuria in diabetes insipidus.

Illievitz³ found a substance of unknown chemical composition in the urine of patients with diabetes insipidus. This substance was not found in the urine of patients in whom polyuria was experimentally induced. He did not prove, however, that the substance with which he was working accounted for the polyuria.

Helen Bourquin⁴ reported a diuretic substance present in the urine of dogs with experimental diabetes insipidus. She has prepared an extract of the mammillary bodies and thalamus of the normal brain which has a diuretic effect.

The polyuria of diabetes mellitus results directly from the hyperglycemia. The increased sugar in the blood increases the osmotic pressure of the blood and thereby dehydrates the tissues of the body. This results in an increase in blood volume with a relative increase in the water content of the blood. This in

itself would increase the urine output somewhat. There enters into this diuresis a second factor, namely the physiological process of "tubule diuresis," a term used by Wright.

A tubule diuresis is caused by the presence in the blood and consequently in the glomerular filtrate of a non-threshold substance. An example of such a substance is sodium sulphate. Sodium sulphate when given intravenously is all excreted in the urine and there is no re-absorption of this substance by the tubules. The maintenance of proper dilution of the sodium sulphate so that the osmotic pressure of the tubule fluid will be within normal limits requires additional water in the tubule fluid. This means increased output of urine, or more concisely, diuresis.

All sugar in the blood *above the normal level* acts similarly as a non-threshold substance. The presence of the sugar in the tubule fluid, through its osmotic pressure, prevents the normal absorption of water by the tubules. With less water re-absorbed by the tubules there results an increase in urine output. According to this theory, the more sugar present as a non-threshold substance the greater should be the urine output. This proves to be the case as is seen in severe cases of diabetes mellitus with high blood sugar levels.

SUMMARY

1. A case of diabetes insipidus in a girl of 12, and one of diabetes mellitus in a girl of 13, are presented.

2. The mechanism of the polyuria in diabetes insipidus is thought to be a faulty re-absorption of water by the kidney tubules. Various theories of the cause of this abnormality are presented.

3. The mechanism of the polyuria in diabetes mellitus is a physical phenomenon caused by excessive amounts of non-threshold sugar in the glomerular filtrate. This sugar through its osmotic pressure causes an increased excretion of urine.

4. The symptoms in this case of diabetes insipidus were completely alleviated by intranasal pituitrin one-half ampoule twice daily. Education and co-operation of the child, a measured diet,

and adequate insulin satisfactorily controlled the symptoms in the case of diabetes mellitus.

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TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

As early as 1884, Weichselbaum described the presence of acid-fast bacilli in the blood of tuberculous patients. Scores of workers have since identified tubercle bacilli in the blood of patients with various forms of tuberculosis. A few have reported the occurrence of tuberculous bacillemia in cases with no evidence of tuberculosis. Löwenstein particularly claims to find tubercle bacilli in the blood in many non-tuberculous clinical conditions. Pronouncements based on such reports have led to the hypothesis that many clinical conditions of doubtful etiology are of a tuberculous nature. What evidence is there to support this doctrine? Tuberculous bacillemia was studied by G. S. Wilson and his collaborators. Their report was published as a 150 page brochure by the Medical Research Council of Great Britain. High points of the report are here quoted.

Tuberculosis Bacillemia

Marked discrepancies occur in the results of workers who have endeavored to demonstrate the presence of tubercle bacilli in the blood by microscopical examination. Some have failed to find tubercle bacilli even in advanced cases of tuberculosis while others claim to have found them in every case of pulmonary and non-pulmonary tuberculosis examined as well as in a high proportion of patients suffering from non-tuberculous disease and of perfectly healthy persons.

The microscopical techniques employed show two main sources of error: (a) confusion caused by artifacts such as fibrin threads, partly disintegrated leukocyte granules, lipid portions of the red cell

envelope, etc., and (b) confusion caused by contamination of the preparations with saprophytic acid-fast bacilli, which are frequently present in tap and in old distilled water and in reagents made up with them.

A surprising degree of discrepancy is noted also in the results of different workers who have endeavored to demonstrate the presence of tubercle bacilli in the blood by the guinea pig inoculation method. These discrepancies are undoubtedly attributable to faulty diagnoses of the inoculated animals, based on insufficient grounds. However, the animal inoculation method as practiced by capable workers is probably the most reliable means of demonstrating the presence of virulent tubercle bacilli. Records of those workers, whose competency seems to be assured, revealed that only a small number of positive results have been obtained, most of which have been with blood from patients suffering from miliary tuberculosis, tuberculous meningitis, advanced pulmonary tuberculosis and occasionally surgical tuberculosis.

Löwenstein has worked out a technique of blood culture with which he has been able to obtain a surprisingly high proportion of positive results, not only in definite cases of tuberculosis but in a number of diseases, the tuberculous nature of which is not generally recognized. The investigators found it difficult to analyze and evaluate the work on which this claim is based. They point out numerous anomalies and contradictions in the results obtained by Löwenstein and subsequent workers who endeavored to duplicate his technique. One of the greatest difficulties encountered was the incomplete and confused nature of the records published by Löwenstein.

CONCLUSIONS

The investigators conclude without equivocation that tuberculous bacillemia, except in patients suffering from advanced and grave disease, is a rare and sporadic phenomenon.

"In diseases such as articular rheumatism, polyarthritis, chorea, multiple sclerosis, schizophrenia, retrobulbar neuritis, Hodgkin's disease, and certain af-

fections of the skin, which are not accompanied by gross lesions of tuberculosis, there is practically no evidence that a tuberculous bacillema ever occurs, nor are there any sound reasons to suppose that the tubercle bacillus plays any essential role in their etiology."

Tuberculous Bacillema, G. S. Wilson, Medical Research Council, London.

Progress in tuberculosis control and treatment is well reflected in the annual reports of sanatoria that come to hand. One such report is that of the Tuberculosis Service of Bellevue Hospital New York City for 1933 prepared by James Alexander Miller Physician in Charge. A few excerpts of particular interest follow.

Modern Tuberculosis Service

The Service is divided into four main groups: (1) The Wards, (2) Out-Patient Clinic, (3) Day Camp and (4) Settlement House. The four wards, with a total normal capacity of 174 have been overcrowded, the winter census running as high as 240. During 1933 there were discharged 2,280 cases of tuberculosis and 533 cases of non-tuberculous conditions. About 15 per cent of the patients are convalescent and ambulant, 35 per cent are chronic bed cases and 50 per cent are acute cases. The cases admitted include an average of 15 to 20 per cent of patients with chronic lung diseases who are found not to have tuberculosis. These are not discharged because of their non-tuberculous condition but receive special treatment.

Collapse therapy is changing the whole trend of the care of the tuberculous. Approximately 40 per cent of all cases of pulmonary tuberculosis are benefited by some form of collapse therapy. An average of 27 pneumothorax treatments per day are given. One hundred thoracoplasty operations were performed during the year.

OUT-PATIENT WORK

The Out-Patient Department admitted last year 2,063 cases. The rotation of physicians between the Ward and Out-Patient Department services makes co-operation between the two effective. An

important new field of activity has been the pneumothorax clinic for ambulatory cases. During 1933, 3,329 pneumothorax treatments were given. This work has opened up a new field of medical effort for it enables many patients to stay at home while continuing their treatment and at least one-fourth of them are able to continue at work. This increasing class of cases is another striking evidence of the change of emphasis from one on health resort and sanatorium treatment to home and institutional treatment in centers of population.

A very important feature of the Out-Patient Department is the supervision of home conditions through the visiting nurses of the city and the bringing in of contacts for examination. The children's clinic is largely constituted of this class of cases. The provision of material relief by the proper agencies is not neglected.

The Day Camp for cases that do not need full sanatorium care is really a floating hospital moored in the river adjoining the hospital grounds. During the year the census of the day camp has averaged 30 men, 15 women, and 75 children. The maintenance expense is comparatively small but the results have been extraordinarily satisfactory.

Bellevue Settlement House, which has a capacity of about 22, renders a very useful service for girls with tuberculosis who are without suitable homes, either while waiting to go to, or after returning from, a sanatorium. The entire expense of the Settlement House is borne by private funds through the Women's Auxiliary.

SUPPLEMENTARY SERVICES

Collateral activities of the Bellevue Tuberculosis Service include (1) Education in chest diseases for undergraduate and postgraduate students. (2) Special training of the medical staff. (3) Social Service, including the activities of the Women's Auxiliary. (4) Cooperative efforts in the development of modern chest surgery. (5) Pathological and clinical laboratory work, including scientific research. (6) Contributions to medical literature.

The Service is chronically overcrowded and overworked. All patients who apply to the hospital must be admitted and since the total number of tuberculosis beds in New York City as a whole has been markedly diminished in the past ten years transfers to other institutions are often delayed. The popularity of the Service has made patients eager to be admitted and reluctant to be transferred. The depression has added heavily to the burden. Plans for expansion of the Service are not wanting and it is hoped that these will receive most careful consideration.

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THE PHYSICIAN'S LIBRARY

SURGICAL ANATOMY: By Grant Massie, M.B., M.S. (London), F.R.C.S. (Eng.) Assistant Surgeon, Guy's Hospital; Surgical Tutor, Guy's Hospital Medical School; Examiner in Anatomy for the Fellowship of the Royal College of Surgeons of England; Late Senior Demonstrator of Anatomy, Guy's Hospital Medical School. Second edition, enlarged and revised, published 1933. Octavo, 458 pages, with 147 illustrations, many in colors. Lea & Febiger, Philadelphia. Price \$6.00.

An exceedingly useful book for the surgeon who desires to refresh his knowledge of anatomy quickly. The topics are clearly presented. The illustrations in the main are excellent and the field is well covered.—C.E.J.

THE TECHNIC OF LOCAL ANESTHESIA: By Arthur E. Hertzler, A.M., M.D., Ph.D., LL.D., F.A.C.S. Professor of Surgery in the University of Kansas; Surgeon to the Halstead Hospital, Halstead, Kansas; to St. Luke's Hospital and St. Mary's Hospital, Kansas City, Missouri, and to the Providence Hospital, Kansas City, Kansas. Fifth edition. 148 Illustrations. The C. V. Mosby Company, St. Louis. Price \$5.00.

The book is written in Dr. Hertzler's characteristic style; the Fifth Edition is devoted almost entirely to infiltrative anesthesia. The illustrations are excellent. The technic is thoroughly described and the book should be useful for any one using this form of anesthesia. There are chapters on paravertebral and splanchnic and a chapter on spinal anesthesia. The subject matter is concisely and exceptionally well illustrated.—C.E.J.

HYPERTENSION AND NEPHRITIS, by Arthur M. Fishberg, M.D., Associate Physician to Beth Israel Hospital; Associate in Medicine, Mount Sinai Hospital, New York City; Third edition, thoroughly revised; Illustrated with 39 engravings and 1 colored

plate; Lea & Febiger, Philadelphia, 1934; Price \$6.50 net.

In this third edition we have a very comprehensive treatise on hypertension and nephritis. The work on nephritis alone is taken up in clear terms and very complete. The work on blood pressure takes up all the various theories of the cause of blood pressure and combined with the part of kidney damage shows the treatment and expectancy. This book would be very valuable to the general practitioner as well as the internal medicine man for reference.—C.K.S.

ALLERGY IN GENERAL PRACTICE, by Samuel M. Feinberg, M.D., F.A.C.P., Assistant Professor of Medicine and Attending Physician in Asthma and Hay Fever Clinic, Northwestern University Medical School; Professor of Medicine in the Cook County Graduate School of Medicine; Attending Physician Cook County Hospital, Chicago. 330 pages. Illustrated with 23 engravings and a colored plate. Lea & Febiger, Philadelphia. Price \$4.50.

The author has presented to the general practitioner of medicine a very readable story of allergy, in a concise, orderly fashion. He brings an "allergy consciousness" to the reader which will redound to the benefit of many patients who may have been previously relegated to the great and unfortunate group—the neurasthenic.—A.J.B.

MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 17, Number 1. (Cleveland Clinic Number—January 1934) Octavo of 253 pages with 53 illustrations. Per Clinic Year July 1933 to May 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

Clinical Factors in the Production of Anemia and the Regeneration of Erythrocytes and Hemoglobin by Russell L. Haden. In this article the author gives the course of the red cell through its production to its destruction; the different abnormalities of the production and of destruction, and lists the laboratory studies necessary, the causes of the various anemias and the treatment.

Dr. Haden has another very excellent article on the study and treatment of chronic arthritis with the presentation of one case and gives an excellent treatise on treatment of these conditions.

Dr. E. Perry McCullagh has a clinic on the management of the parathyroid tetany and the management with and without calcium presenting three cases.

(Continued on Page 195)

THE PRESIDENT'S MESSAGE

To the Members of the Kansas Medical Society:

With so much of our time consumed in trying to keep up with current events, we are inclined to neglect the routine subjects of our profession.

It is possible to develop honest action among our people by proper education. Intelligent action along certain lines can accomplish the desired results. In legislation, for instance, unless we educate people to a better understanding of the requirements of our profession, measures will continue to be proposed and in some cases become laws, which never should have passed had there been an explanation of the seriousness of the matter.

It seems to me our hope lies in wholehearted cooperation within our organization and we, as individuals, should do our part. We should not choose ideals which conflict in any way with our communities, but in our choice should extend our influence in such a way that our purpose will be recognized by those with whom we come in contact.

We are all trying to accumulate material for success, however, let us not lose sight of the unlimited field which our profession offers for helping the unfortunate.

Through intelligent understanding of our purpose to educate the laity for their own good, we may accomplish the hoped for results and the correct solution of our problem.

Yours Fraternally,

A handwritten signature in cursive script, reading "W. F. Bowen." The signature is written in dark ink and is positioned above the printed name of the President.

President, Kansas Medical Society

Topeka, Kansas

April 20, 1934

THE JOURNAL

of the

Kansas Medical Society

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EDITORIAL

SOME PROBLEMS IN THE TREATMENT OF CANCER

A cancer survey of the State of Kansas has just been completed by the American Society for the Control of Cancer. A report of this survey will be made at the annual state medical society meeting so that every physician in the state may be able to familiarize himself with the entire cancer problem as it exists in his locality.

Cancer stands second as a cause of death in the registration area of the United States and its frequency is increasing. It caused 8.6 per cent of all deaths in the United States in 1930. Even a casual review of the subject will indicate that cancer as a whole is not

being treated efficiently, chiefly because it is either not recognized early by the doctor or patient or the importance of early treatment is not clearly appreciated.

To preach about cancer may seem futile to many. Others may assume a fatalistic attitude and brush aside the problem as one not worthy of the effort. To such individuals, attention may be called to the fact that the excellent present day control of tuberculosis was not achieved without effort. For the control of cancer, the second most deadly disease, the public and profession are now receiving the call that was sent out a few years ago to eradicate the ravages of the white plague. This call is being answered by local surveys, education of the public, education of physicians and establishment of cancer clinics. A not unimportant phase of the educational problem is the necessity of a concerted effort to eradicate all quacks and irregular practitioners of medicine who take advantage of a disease being given publicity to prey upon the cupidity of sufferers who are not capable of differentiating between science and sophistry. Hope is the sheet anchor of both the afflicted and the quack and cannot be disregarded in educating the laity concerning the treatment of cancer. The quack always offers hope regardless of honesty. Physicians and patients can best combat the medical parasites by learning to recognize cancer at a stage when the possibility of a cure can with honesty be promised.

The medical profession should take a positive stand in the cancer education of their patients. To do this physicians must have definite and clear cut knowledge of the natural history of cancer as well as what may be expected when proper treatment is given. Every effort should be made to stamp out the very general belief that life is as good as lost

as soon as cancer is diagnosed. If every living person could be convinced that cancer at the proper stage is curable, much would be done for its control. This is the function of the physician and especially the family physician. Our patients cannot be stronger in their convictions concerning the treatment of disease than their doctors.

Three patients, entered the University of Kansas Hospital for cancer of the breast the same week illustrate the urgent necessity of educating both physicians and patients as a part of a campaign to lower the cancer death rate. The first patient, a woman, 45 years of age, consulted her doctor two years ago for a lump in her breast. She was told that it amounted to nothing and tincture of iodine was recommended. She later consulted another physician who told her not to be alarmed unless "lumps" appeared under the arm. The second patient consulted her physician because of a nodule in her breast 18 months ago. Operation was advised and rejected. She is quite religious and chose to trust in the reading of her bible as a means of therapy. The third woman was sent to the hospital by her family doctor for the repair of old perineal and cervical lacerations. She knew she had a mass in her breast but did not tell her doctor. She was sure that the mass which she had noticed eight months before was due to the old lacerations and would be readily cured by their repair. These three patients all have advanced cancer of the breast with involvement of the axillary lymph nodes. It is doubtful if their chances of a ten year cure are more than ten per cent. Certainly education is the only means of correcting such errors as these patients demonstrate.

It must be impressed upon physicians and the public alike that in the present

state of scientific knowledge that the only efficient treatments of cancer are surgery (which includes various types of cautery excision or destruction), *x*-ray and radium. Destructive pastes and other chemicals have no place in cancer treatment. Efficient surgical treatment is much more generally available than efficient *x*-ray and radium therapy. The former is more standardized than the latter. *x*-Ray and radium treatments have been rapidly changing in recent years, but are far from being standardized even at the present time. Controversy is still active concerning the efficacy of surgery compared to treatment by radiation. It is unfortunate that there is not as yet a clear cut field for each type of therapy. Since it is well recognized that this is not true the opinion of those that treat cancer best is firm in the conviction that all cancer should be treated as a group problem having available the cooperation of surgeon, radiologist and pathologist.

THOMAS G. ORR, M.D.

THE DEVELOPMENT OF PRE-CLINICAL INSTRUCTION IN BACTERIOLOGY AND IMMUNOLOGY

Although medical education may be traced back into antiquity and anatomical dissection to the early centuries of the Christian era, the remaining laboratory sciences have formed an integral part of the university curriculum for only a little more than a century.

Purkinji established the first university laboratory of physiology in 1824 at Breslau. The first university to establish a chemical laboratory was at Giesen in 1826; Liebig was made director. In 1838 Johannes Müller assumed the directorship of the physiological institute at Berlin and trained Schwann and Virchow who applied Schwann and Schleiden's cellular theory of plant tissue to animal tissues. Virchow established his

first pathological laboratory at Berlin in 1855 and published his final concept of "cellular pathology" in 1858. This is regarded as one of the great contributions of the 19th century.

To appreciate that bacteriology and immunology are relatively new to the medical curriculum one has only to recall that Dr. Welch, now emeritus professor of the history of medicine at Johns Hopkins, was actively engaged in postgraduate work in pathology in Germany (1876-78) before bacteriology and immunology were completely established as laboratory sciences. While Pasteur had explained fermentation, offered ample proof of the "germ theory" of disease and rediscovered the Jennerian principle of active immunization with an attenuated virus, Koch had not as yet introduced solid media or formulated his postulates and the cause of tuberculosis, diphtheria, typhoid fever, bacillary dysentery, tetanus, gas gangrene and most of the infectious diseases were unknown. Koch had made his great contributions and many new organisms had been discovered by the time Welch accepted the chair of pathology at Johns Hopkins in 1884 and Theobald Smith, the position in pathology at George Washington University in 1886. Pasteur and Koch changed the teaching relative to the cause and prevention of infectious diseases.

The next decade saw the beginning of the science of immunology. Toxins (1888-1889) and antitoxins (Behring, 1890) were discovered and the latter was introduced into clinical medicine about 1894. The agglutination test was suggested as a diagnostic procedure by Widal and Gruber (1896) and Bordet immediately explained the mechanisms involved in this and other antigen and antibody reactions from the standpoint of physical chemistry. The concept of

cellular immunity was developed in Pasteur's laboratory by Metchnikoff while the German school under the leadership of Pflügge, Ehrlich, Behring and others inaugurated the humoral theory.

During the next decade ending with 1906, many new concepts crept into the preclinical sciences. Bordet and Gengou (1901) suggested the use of complement fixation in diagnoses. Wassermann (1906) applied it to the diagnosis of syphilis after Schaudin (1905) had discovered the etiological factor, *Treponema pallidum*. Landsteiner (1901) discovered the blood groups and during this period he began his remarkable work on modified antigens. Richet (1903) and also Theobald Smith discovered anaphylaxis. Wright in England and Russell in America advocated active immunization against typhoid fever. While it is quite probable that Welch, Theobald Smith, Hektoen, Gay and a few others mentioned these discoveries to their students at the time they were published they did not become an integral part of medical education until the next decade. Between the years 1906 and 1917, the Wassermann test and typhoid immunization came into general use, Moss published on the blood groups (1910) and during the World War compatibility tests and blood transfusion became popular. The Schick test appeared in 1913 and Park began immediately his brilliant work in active immunization against diphtheria, the results of which did not meet with general use until after 1920. Prior to 1918 bacteriologists as a rule had unhesitatingly accepted the concept of Cohn (1875) and Koch (1877) that bacterial characteristics such as morphology, fermentative powers, or pathogenicity, are constant and inheritable and that all organisms in a colony or pure culture are alike. Since then largely through the work of Andrews, DeKruiff and others

the concept of bacterial dissociation into smooth and rough variants, the former virulent and the latter nonvirulent has developed and is only recently appreciated. It has been shown that the organism forming the smooth colonies of pneumococci owe their type specificity to complex sugars and that these carbohydrates play a role in infection. Avery and Goebel at the Rockefeller Institute have succeeded in transforming one type of pneumococcus into another, thus at least throwing some doubt upon the concept of constancy of bacterial characters held by Koch. Quite recently it has been shown that swine influenza and perhaps also human influenza are caused by a dual infection of a filterable agent and a rod-like organism belonging to the hemophilic group. Thus the previously held concept that every infectious disease is caused by one specific agent is found to have exceptions.

It is also interesting to note that, judging from the quiet and sympathetic reception given to the views of Hadley of Michigan and Mellon of Pittsburgh on bacterial variation that there is a trend toward more openmindedness or perhaps philosophy in pathogenic bacteriology corresponding in a measure to the change in attitudes noted in physics and chemistry since 1911. During the past decade immunology has become a separate course in the medical curriculum and is being presented as a science rather than a set of empirically performed laboratory exercises. During this time there has occurred great refinement and an increase in number of serological techniques used in diagnosis and of vaccines and serums used in active and passive immunization respectively. These along with the changing concepts as to the nature of bacteria, viruses, red cells, antibodies, local immunity, tissue hypersensitiveness and mechanisms of reac-

tions will form the content of the immunology texts of tomorrow. The lag period between progressive research and academic teaching is a hurdle to be overcome by the medical faculty.

NOBLE P. SHERWOOD, Ph.D., M.D.

EDITORIAL COMMENT

The American Association for the Study of Goiter will hold its annual meeting in Cleveland, June 7-9, 1934.

The University of Wisconsin has just received a bequest of \$300,000 from the late Miss Jean Bowman of Wisconsin Dells to found a cancer clinic and research center. (*The Diplomat*, April, 1934).

The Mantoux test was recently given to approximately 6,800 school children in Omaha Nebraska. Positive reactors numbered 1,350, or nearly 20 per cent. No active cases of tuberculosis were found.

It is reported the Louisiana State Board of Medical Registration will in the future require every physician from a foreign medical school to have in addition to a foreign diploma, one from a medical college in the United States and recognized by the board.

Dr. Jay Frank Schamberg, professor of dermatology and syphilology, University of Pennsylvania Graduate School of Medicine, Philadelphia, and director of the Research Institute of Cutaneous Medicine, died March 30, 1934, of heart disease. (*J.A.M.A.*, April 14, 1934).

The Medical Women's National Association will hold its annual meeting in Cleveland on June 10, 1934, just preceding the meeting of the American Medical Association. Headquarters have been established in the Hotel Cleveland. Dr. Elvenor Ernest, of Topeka, is regional director of the Southwest Central District.

The American Medical Golfing Association will hold its twentieth annual tournament at the Mayfield Country Club in Cleveland on June 11, 1934. Thirty-six holes of golf will be played in competition for the 50 trophies and prizes in eight events. Dr. Homer K. Nicoll, of Chicago, is president of the association and William J. Burns, of Detroit, secretary.

THE LABORATORY

Evaluation of Laboratory Service

CECIL G. LEITCH, M.D.*

Clinical and research laboratories have become a fundamental part of the medical instruction of today, and are valuable adjuncts to the practicing physician in handling problems of disease. These columns have from month to month carried well written and carefully selected methods of diagnostic assistance available to the clinician in his local laboratory or in the laboratory of the nearby hospital. Realizing that this laboratory editorial makes available to the reader of this journal the latest procedures of value to the practitioner, I propose to briefly present a review of some medical observations of recent years in the development of which the laboratory has been a potent factor under the direction of many careful investigators.

The developments in the field of vitamin research comprise a most intriguing chapter in recent developments in medicine. With the recognition of fundamental pathological changes resulting from deficiency of the various vitamins and an available source of supply of these vitamins, the diagnosis and treatment of these deficiencies has been made possible. The demonstration of the essential nature of a balanced nutrition in the maintenance of health is, of course, the ultimate goal of these researches.

The diagnosis of anemias and their re-classification has resulted from the perfection of numerous new methods of study of the qualities and characteristics of the red blood cells together with the demonstration of necessary factors in hemoglobin synthesis initiated by the experimental work of Whipple and clinical investigations of Minot and Murphy. The later ramifications of this study preclude further discussion except to mention the recent suggestion of Castle as to the identity of the extensive factor necessary for hemoglobin synthesis which he believes may be a vitamin and which

is necessary to bring about the remission in pernicious anemia. Anemias of the secondary type have received no less attention and it is quite clearly shown that a depletion of the essential reserves for hemoglobin synthesis—particularly iron—is a prominent etiological factor. Intrinsic defects in the gastric mucosa play an important role in the development of pernicious anemia and are also of importance in the absorption of iron from the intestinal tract in the hypochromic type of anemia.

Much attention is focused at the present time by clinical laboratory and research investigators upon the leukocytic dyscrasias—particularly the syndrome of agranulocytosis. These studies are directed toward the recognition of the underlying pathology and methods of treatment the most successful of which at present is nucleotid therapy; the assumption being that nucleic acid derivatives exert a direct myelopoietic stimulus. The value of differential counts of white blood cells has received considerable attention especially as concerns their prognostic significance—particular attention being given to lymphocytes and the diseases involving the lymphatic tissues.

The question of virus diseases has received a great deal of attention in recent years with these observations as a result. The work of Kendall with his announcement that he could at will change visible pathogenic organisms into an invisible filter passing form seemed revolutionary, and as yet is not confirmed. The one result of these studies is, however, an increasing realization of the instability of the many bacterial forms under varying environmental conditions. The observations made concerning the ability to prevent poliomyelitis by the use of immune serum, and the finding that normal adult human serum is frequently as effective in passive protection as convalescent serum has been important. It remains questionable, however, as to whether convalescent serum is curative in poliomyelitis if the paralytic stage is reached.

The early diagnosis of pregnancy has been made more feasible by the Fried-

*Director of Clinical Laboratories.

man modification of the Ascheim-Zondek test. Attempts at the determination of sex of the unborn child, though heralded as practical a few months ago, still lacks confirmation.

In attempting to survey the developments in medicine, even in a superficial manner, one is impressed with the extent to which the activities of the laboratory has permeated the field of diagnostic medicine and how indispensable they are in the successful management and control of many diseased conditions.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

FATAL TULAREMIA

These authors report a fatal case and the autopsy findings as well as summarizing from the literature all the fatal cases of tularemia which have come to autopsy. Their general comment is that the pulmonary lesions are the most important feature of the visceral pathology, and the next most frequent site of involvement in the fatal cases reviewed was in the central nervous system. Of the pulmonary lesions described, almost any sort of pathology had been discovered although the most characteristic lesion is a lobular type of pneumonia, containing foci of necrosis.

Fatal Tularemia. Review of Autopsied Cases with a Report of a Fatal Case. Gundry, Louis P., and Warner, C. Gardner. *Annals of Internal Medicine* 7:837-852. January 1934.

THE ETIOLOGY OF PEPTIC ULCER

This author outlines the various hypotheses concerning the cause of peptic ulcer, including circulatory disturbances, erosion of tissue by acids, neurogenic factors, inflammation and infection, and a discussion of the ulcer diathesis. Then he attempts to apply some of these hypotheses to explain the etiology of peptic ulcer in clinical problems of ulcer in man. His conclusion is that peptic ulcer is a result of several inter-acting and variable factors. He makes very little mention of the psychological factors in gastric ulcer, a subject which is being given a great deal of consideration by both internists and surgeons.

Clinical Considerations of the Etiology of Peptic Ulcer. Rivers, Andrew B. *The Archives of Internal Medicine* 53:97-119. January 1934.

RECENT ADVANCES IN CARDIOLOGY

These writers make a general summary most of which is rather of a review nature but add the very interesting information from various life insurance companies as to the effect of the depression on heart disease. It is interesting to note that in the information supplied by the Mutual Life Insurance Company of New York angina pectoris jumped from 63 deaths in 1930 to 125 deaths in 1932, and that other diseases of the heart jumped from 234 to 286, having risen to 340 in 1931; and diseases of the arteries increased from 112 to 218 between 1930 and 1932. The writers assume that the additional stress and strain of the depression on the general populace is in some part accounting for this increase in heart disease.

Recent Advances in Cardiology. Bishop, Louis Faugeres, and Bishop, Louis Faugeres, Jr., *Clinical Medicine and Surgery*. 41:15-17. January 1934.

THE PATHOLOGY OF ABNORMAL UTERINE BLEEDING

This study is a resume from the Department of Obstetrics and Gynecology of the Yale University School of Medicine. The author in a very concise fashion outlines all the possible causes of abnormal uterine bleeding in puberty during the reproductive period both during pregnancy and labor and the puerperium and also in the absence of pregnancy as well as during the period of the menopause. He discusses each of these causes briefly which are herewith listed.

In puberty there is the probable endocrine dysfunction and the association with malignant neoplasms, either sarcoma or carcinoma. During the reproductive period in pregnancy before labor there is the threatened abortion, tubal pregnancy, incomplete abortion, hydatidiform mole, cervical lacerations, and cervical adenoma. Later in labor there is the placenta previa, the premature separation of the normally implanted placenta, and vaginal varicosities, as well as uterine atony, cervical lacerations, and retention of placental tissue. During the puerperium the author lists placental

polyp, subinvolution, uterine myomata, chorioepithelioma. In the absence of pregnancy he lists various adenomata, endometrial hyperplasia, chronic cervicitis, acute or chronic pelvic inflammatory disease, ovarian tumors, and general diseases along with uterine displacements. During the menopause he lists cervical and uterine adenomata, various types of carcinoma and sarcoma and endometrial hyperplasia. All of these subjects are taken up and discussed in some detail in a very excellent paper.

The Pathology of Abnormal Uterine Bleeding. Morse, Arthur H. The Yale Journal of Biology and Medicine, 6:89:100. December 1933.

PERSONALS—NEWS ITEMS

Topeka: Dr. and Mrs. Ralph M. Fellows have returned from a week's motor trip to Danville, Chicago and Salisbury, Missouri.

Kansas City: Dr. C. Omer West addressed the April meeting of the Ford County Medical Society at Dodge City, on "Epidermophytosis."

Topeka: Doctors Arthur D. Gray and Karl A. Menninger addressed the Kansas City Urological Society, Kansas City, Missouri, on March 7.

Kansas City: Dr. W. J. Feehan attended the meetings of the Tulsa County Medical Society, at Tulsa, Oklahoma, April 5-8, 1934, and presented a discussion on "Fractures."

Topeka: Dr. Karl A. Menninger addressed the Third Annual Graduate Educational Meeting of the Indiana State Medical Association at Evansville, on April 26, on "Psychoanalysis and Neuro-Psychiatry."

THE PHYSICIAN'S LIBRARY

(Continued from Page 187)

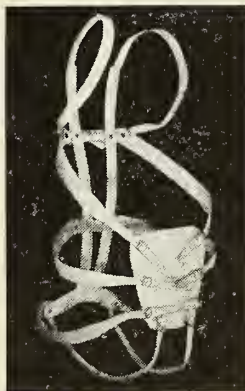
Dr. Henry J. Johns has an interesting and instructive clinic on hyperinsulinism in which he brings forth a very new and perhaps radical method of treatment.

The Treatment of Digestive Disturbances in Asthenic Patients by Dr. C. L. Hartsock. This is, indeed, a very interesting clinic and should be studied by every one who should have access to it. He divides the cases into four groups, giving the various symptoms and a very careful discussion of their treatment.

Dr. R. H. McDonald gives a very interesting clinic on clinical types of Bright's Disease using Addis' classification. He gives a differentiation between different types presenting three typical cases with complete discussion of each case.—C.K.S.

A DIABETIC MANUAL for the Mutual Use of Doctor and Patient, (Fifth Edition, Revised) by Elliott P. Joslin, M.D., Clinical Professor of Medicine, Harvard Medical School; Medical Director George F. Baker Clinic for Chronic Disease at the New England Deaconess Hospital; Consulting Physician, Boston City Hospital, Boston, Mass. This is a small book 5½" x 8"x1½", containing 224 pages and 49 illustrations. Published by Lea & Febiger, Philadelphia. Price \$2.00.

This book enables the diabetic patient to co-operate intelligently with his physi-



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cian. It instructs him how to carry out the home treatment. It answers all of the essential questions at the outset concerning food values, diet calculations, danger signs, and the use of insulin, thus saving time and avoiding misunderstandings. This edition covers every advance in the treatment of the disease. It clarifies the doctor's instructions and simplifies diet calculation, another element of the treatment which the patient can do for himself. For these reasons this book is recommended to the laity as well as the profession. In short Joslin's Diabetic Manual should be the physician's first prescription for the diabetic.—J.G.S.

COUNTY SOCIETY NEWS

ELK COUNTY MEDICAL SOCIETY

The Elk County Medical Society met at the court house, Wednesday April 11, at 7:30 p. m. Mrs. H. S. Giere, Poor Commissioner and Case Supervisor for Elk County, met with the society and explained the workings of the Kansas Emergency Relief Committee and its relation to the problems of the physician in handling the medical end of the county poor.

Members present included: Doctors F. K. Day, Longton; R. C. Hutcheson, Elk Falls; C. E. Shaffer, Moline; R. C. Harner and F. L. DePew, Howard.

F. L. DE PEW, M.D., Secretary.

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BIRTHS

Horton: Dr. and Mrs. L. C. Edmonds, March 14, 1934; a daughter, Ann Parish.

Liberal: Dr. and Mrs. Albert L. Hilbig, February 13, 1934; a daughter, Alberti-ann.

Mankato: Dr. and Mrs. R. E. Bennett, February 24, 1934; a son, Lawrence Clayton.

Salina: Dr. and Mrs. Leo J. Schaefer, February 11, 1934; a son, Joseph Peter.

Topeka: Dr. and Mrs. James T. Hunter, March 2, 1934; a daughter, Carolyn Regina.

Wichita: Dr. and Mrs. Louis S. Roberts, March 9, 1934; a daughter.

R

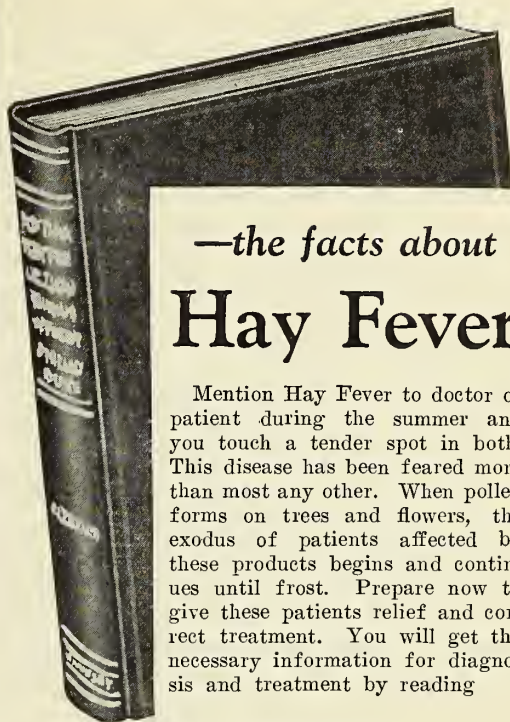
DEATH NOTICES

BREWER, JOSEPH FRANCIS, Minneapolis, aged 79, died March 11, 1934, of lobar pneumonia. He graduated from University Medical College, Kansas City, Mo., in 1889. He was a member of the Society.

IMMEL, ALBERT ALLISON, Welborn, aged 74, died March 15, 1934, of acute pancreatitis. He graduated from Eclectic Medical University, Kansas City, Mo., in 1913. He was not a member of the Society.

RIGHTER, WILLIAM HENRY, Topeka, aged 81, died April 24, 1934, of hypostatic pneumonia. He graduated from Jefferson Medical College, Philadelphia, in 1879. He was a member of the original faculty of the Kansas Medical College; charter member of the Shawnee County Medical Society, and an emeritus member of the Society.

SCOTT, WALTER WAVERLY, Kensington, aged 53, died March 18, 1934, of pneumonia. He graduated from University Medical College, Kansas City, Mo., in 1906. He was a member of the Society.



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KANSAS MEDICAL AUXILIARY

MRS. J. THERON HUNTER, Topeka
Chairman of Publicity

According to reports from Mrs. Tihen, Mrs. Friesen, and Mrs. Cox who met with the entertainment committee of the medical society, the annual banquet and dance at the state meeting in May will be the best ever. Arrangements for music, food and entertainment have been completed and the stage is all set.

The essay contest under the auspices of the Gorgas Memorial which was sponsored in Wichita by the Ladies Auxiliary resulted in two essays of Wichita high school students being sent to compete in the national contest at Washington, D. C. This contest was given local impetus as a result of the enthusiasm of Dr. D. W. Basham. It was he who urged the organization to sponsor the contest and present it to the local high school students.

One of the outstanding social meetings of the season in Sedgwick County was held March 19 at the home of Mrs. T. Walker Weaver. All decorations symbolized the arrival of spring. The String Ensemble of Wichita University under the direction of Dean Thurlow Lieurance entertained. Two groups of solos were sung by Mrs. Edna Woolley Lieurance. Rabbi Harry Richmond gave a very interesting talk on "Ancient and Modern Concepts of Art."

The Central Kansas Medical Auxiliary met March 15, 1934, in Hays, at the home of Mrs. Unrein.

The Auxiliary of the Brown County Medical Society met Friday night at the home of the president, Mrs. Paul Conrad. During the business hour matters of interest pertaining to the auxiliary were discussed. Mrs. R. T. Nichols read the news-letter from Mrs. E. J. Nordufth, of Wichita, president of the Kansas Auxiliary. Mrs. W. G. Emery, Mrs. Paul Con-

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rad, and Mrs. R. T. Nichols will represent the Brown County Auxiliary at the state meeting May 10-11 at Wichita. The doctors joined the ladies for an enjoyable social hour. The hostesses assisted by Miss Virginia McDonald served light refreshments. Mrs. Conrad presented each lady with favors of unique Easter novelties. Out of town members attending were Dr. and Mrs. Hibbard, and Dr. and Mrs. Deaver, Sabetha; Dr. and Mrs. McEwen, Morrill.

TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of January 30 the following have been accepted:

Hoffman-La Roche, Inc.—Tablets Digalen-Roche, 1 Cat Unit.

National Drug Co.—Scarlet Fever Streptococcus Toxin for the Dick Test (National) fifty test packages. Typhoid-Paratyphoid A Vaccine, thirty 1 cc. ampule-vials package.

Parke, Davis & Co.—Ortal Sodium. Capsules Ortal Sodium, 3 grains (0.2 Gm.)

Sheffield Farms Co., Inc.—Sheffield B. Acidophilus Milk.

John Wyeth & Brother, Inc.—Ampoule Solution Dextrose 25 Gm. in 50 cc. Ampoule Solution Dextrose 50 Gm. in 100 cc.

Don Baxter Intravenous Products Corporation—Sterile 2½% Dextrose in Physiological Sodium Chloride Solution in Vacoliter Container. Sterile 5% Dextrose in Physiological Sodium Chloride Solution in Vacoliter Container. Sterile 7½% Dextrose in Physiological Sodium Chloride Solution in Vacoliter Container. Sterile 10% Dextrose in Physiological Sodium Chloride Solution in Vacoliter Container.

Eli Lilly & Co.—Solution Liver Extract Concentrated—Lilly Ampoules Solution Liver Extract Concentrated—Lilly, 10 cc.

G. D. Searle & Co.—Tablets Procaine Borate Without Epinephrine.

Sharp & Dohme, Inc.—Antipneumococcic Serum, Types I and II Combined—Mulford. Antipneumococcic Serum, Concentrated (Pneumococcus Antibody Globulin, Types I and II)—Mulford. Diphtheria Toxoid, Alum Precipitated (Refined). Live Oak Pollen Extract—Mulford; Red Clover Pollen Extract—Mulford; Sweet Clover Pollen Extract—Mulford; Southern Ragweed Pollen Extract—Mulford.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Typhoid Vaccine.—This product (New and Nonofficial Remedies, 1933, p. 394) is also marketed in three vial packages (one immunization). The National Drug Co., Philadelphia.

Typhoid-Paratyphoid Combined Vaccine.—This product (New and Nonofficial Remedies, 1933, p. 394) is also marketed in packages of thirty vials (ten immunizations) and in packages of 150 vials (fifty

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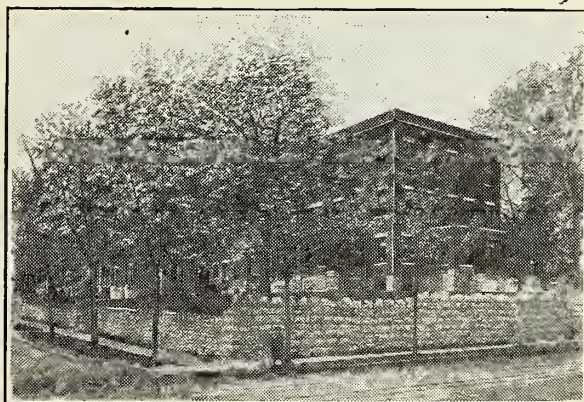
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immunizations). The National Drug Co., Philadelphia.

Rabies Vaccine-Gilliland.—This product (New and Nonofficial Remedies, 1933, p. 371) is also marketed in packages of fourteen vials, each containing 2 cc. The Gilliland Laboratories, Inc., Marietta, Pa.

Ventriculin, 500 Gm. Bottle.—Each bottle contains Ventriculin (New and Nonofficial Remedies, 1933, p. 264) 500 Gm. Parke, Davis & Co., Detroit, Mich.

Euphthalmine Hydrochloride.—A brand of eucaptopine-N.N.R. (New and Nonofficial Remedies, 1933, p. 84). Schering & Glatz, Inc., New York.

Tablets Cod Liver Oil Concentrate-Lederle.—A cod liver oil concentrate in the form of sugar-coated tablets, each containing not less than 1,000 U.S.P. units of vitamin A and not less than 500 A.D.M.A. units of vitamin D. Tablets cod liver oil concentrate-Lederle possess properties similar to those of cod liver oil so far as these depend on the fat soluble vitamin content of the latter. Lederle Laboratories, Inc., Pearl River, New York.

Triethanolamine-Crude.—A mixture containing approximately 75 per cent triethanolamine, 20 per cent diethanolamine, and 5 per cent monoethanolamine. It is an excellent emulsifying agent for use in the preparation of ointments and other dermatologic medicaments. It is claimed to have the power of increasing the penetration of oily substances and to possess a certain amount of bacteriostatic action. (Jour. A.M.A., February 17, 1934, p. 537).

Diphtheria Toxoid, Alum Precipitated (Refined).—Diphtheria Toxoid (Havens). Diphtheria toxin modified by the method of Ramon may be precipitated

by the addition of potassium aluminum sulphate. The resultant water insoluble precipitate, which contains the antigenic properties, is purified by washing. Refined diphtheria toxoid, alum precipitated, is used for active immunization against diphtheria. It is administered subcutaneously in one dose.

Refined Diphtheria Toxoid (Alum Precipitated).—Prepared from a seven day culture of the diphtheria bacillus which yields toxin having an L dose of not more than 0.2 cc. The toxin is treated with formaldehyde. The toxoid is precipitated with a solution of alum, washed, and suspended in physiologic solution of sodium chloride to which merthiolate has been added. It is marketed in packages of one 0.5 cc. vial and in packages of one 5 cc. vial, representing one and ten immunizing doses, respectively. The National Drug Co., Philadelphia.

Refined Diphtheria Toxoid Alum Precipitated-Squibb.—Prepared by treating diphtheria toxoid with a solution of alum until complete precipitation is produced. The precipitate is washed and suspended in physiologic solution of sodium chloride. It is marketed in packages of one 0.5 cc. vial and in packages of one 5 cc. vial, representing one and ten immunizing doses, respectively. E. R. Squibb & Sons, New York.

Soluble Gelatine Capsules Parke-Davis Haliver Oil, Plain, 3 Minims.—Each capsule contains Parke-Davis haliver oil, plain (The Journal, November 18, 1933, p. 1634), 3 minims, with sufficient cod liver oil to fill the capsule. Parke, Davis & Co., Detroit. (Jour. A.M.A., February 24, 1934, p. 605).

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THE JOURNAL

of the

Kansas Medical Society

Vol. XXXV

TOPEKA, KANSAS, JUNE, 1934

No. 6

ORIGINAL ARTICLES

THE PRESIDENT'S ADDRESS

W. F. BOWEN, M.D.*

Topeka, Kansas

Custom has decreed the President make an address; a pleasing custom for some, an ordeal for others. I accept the ordeal and thank you for the honor conferred upon me.

I have been in the medical profession a number of years. I have grown up with the profession in Kansas; have watched its growth through the adolescent stage with its confusions, its petty jealousies and its inhibitions; in fact, with all its ailments common to that period to its present state of maturity. We have a society we can well be proud of. Our organization will continue to grow and become a more vital force in our state and nation.

The uppermost thought in our mind today is that our profession stands for the conservation of the health of its people; that is the reason for our organization. We stand united with the American Medical Association for that one purpose. There are many ramifications to this objective—too many to enumerate in the short time we have, but the two great divisions apparent to you all are the physician and the patient (the public).

As regards the physician, the American Medical Association has taken care of him. He has been refined, shaped and moulded by education and regulations until he can stand before the whole world; not as a perfect product perhaps, yet a pretty keen attempt at it. We older men

give due consideration to graduates of the last few years; they are a fine group. These splendidly trained young men enter the profession, injecting into our society vigor, optimism and enthusiasm; we most heartily welcome them. The profession and the public will profit by this new generation if the public will cooperate.

It is the public, however, which needs to be educated in health conservation. If it refuses to be enlightened then it must be protected, and that today is our objective.

Let us review what The Kansas Medical Society has contributed to this end since its founding in 1859. In Section 6 of the Act of Incorporation of The Kansas Medical Society passed by the Legislative Assembly and approved by the Governor of the *Territory of Kansas*—notice the *Territory*; this explains the name *The Kansas Medical Society*—not the Kansas State Medical Society, for the society is older than the state—the control of the practice of medicine was turned over to this society. It is through the influence of The Kansas Medical Society that we have our present state board of health, and through this board we have pure food and drug laws and quarantine regulations. It is due to the active campaign of the state board of health, in cooperation with the medical profession, that diphtheria has been all but stamped out in the State of Kansas. Our society is responsible for our present State Board of Medical Registration and Examination—and the laws governing the practice of medicine in the state—with the exception of some of the jokers, for which we are not responsible.

True there are many things yet to be desired, among them the Basic Science Law. The American Medical Association has been working on this for several years and our old friend, the late Dr. W. E. McVey, labored hard and long for the

*Given before the 76th annual meeting at Wichita, Kansas, May 9-11, 1934.

passage of this law. If he could have had the support of the individual members of the society I believe it would have been a reality today. In his zeal for its passage he stressed the importance of the law to the medical profession, but he did this to gain the physician's support for the proposed law. I am of the opinion it would have been passed had the stress been laid upon the importance of the law to the *public*. When we have a scientific understanding of health measures brought before the Legislature, it is surprising and disappointing how little interest our representatives of the people take in these measures. The primary purpose of the Basic Science Law is to safeguard the health of the public, especially the children.

Working in and through the Society the question continually arises, "How can we make our organization more efficient for both physicians and the public?" One way, which seems to have gained momentum in some sections of the state, is to employ a full-time *lay* secretary. I have given this subject very careful consideration and I hope all of you will do the same before making any change in our present system. We must remember that we now have a practically *full-time* secretary, on *part-time* pay. Also, do not lose sight of the fact that in all the years we have had Dr. Hassig and Dr. Huffman before him, the Kansas Medical Society has lost no money through the secretary's office. It may be of interest to some of you to learn that some time ago there was a bank failure in Kansas City, Kansas, and in this bank were some funds belonging to our society. The society was reimbursed by Dr. Hassig and he is at this time carrying nearly three hundred dollars of the bank's paper. With the very efficient work being done under the present system, no new arrangement in my opinion should be considered or adopted without most thorough and unquestionable proof that it can be improved.

The tendency to turn our county societies into strictly business organizations with lay efficiency experts is to my mind,

getting away from the true purpose of the medical society. A society which is so organized that the greatest number of physicians in the community may belong and be benefited thereby, is the ideal. By making dues exorbitant and shutting out many of the eligible physicians is not in accordance with the ethics of our profession.

On the other hand, I feel we should strive at this time especially for efficiency in our organization and attempt to maintain the same high ideals we have had in the past with the least financial burden to our members. I believe we can best accomplish this by a united profession. Let us not be too keen for a new deal; there is much *good* left in the old.

In McGuffey's Reader we read:

"New occasions bring new duties
Time makes ancient things uncouth
We must upward still and onward
Who would stand abreast of truth."

We are strong for the thought, but not so strong as we were a few years ago. We find that a thing that is fundamentally right remains and is the foundation upon which we build. We do not have to dig things up by the roots to be "upward and onward." We have men, old in our profession, who are at the same time the bulwark of it. The new order is not the *best* unless it has in it the *best* elements of the old.

Another product of our society is the Defense Board. This Board was organized in 1911 and in the 23 years of its existence there have been only two chairmen, Dr. W. E. McVey for three years and Dr. O. P. Davis for 20 years. In the same time we have had three attorneys—Ed McKeever, Otis Hungate and John Hamilton. In the last 11 years there have been 99 cases filed against our members; five cases have been decided against us and 13 have been settled out of court by the insurance companies against the advice of the Defense Board. The policy of the Defense Board has always been to fight every case to the end. Seven cases have been appealed to the Supreme Court and every case won. There are 26 cases now pending; 14 of them filed this year. This is the largest

number that has been filed in any one year. Of the five cases lost, McKeever lost two; Hungate who was only with us for one year, lost none, and Hamilton inherited 20 cases and has handled 79 additional cases with a loss of three. We think this is a wonderful record. We speak of these things first to compliment the men who have been responsible for the handling of the cases and second so that you may all know what is going on and realize the importance of the Board to the members of our society.

There has been some talk of taking money out of the Defense Fund to help defray the expenses of a full-time secretary. I consider this would be a serious mistake, because during the depression there has been a definite increase all over the country, in the number of malpractice cases filed—and the depression is not yet over.

As I understand it, the big thing to be accomplished by a full-time secretary is the solution of our legislative problems. I would like to make the following suggestion for your consideration. There are men in the state, who, for years have been working on problems before the Legislature. They are retained by corporations or other large interests vitally concerned in the passage or defeat of measures important to their companies. These men know how to accomplish things and our suggestion is that our Legislative Committee be authorized to retain two or three of these, or as many as the committee may deem necessary.

I am optimistic enough to believe that many of the things that will be of benefit to the public health can be passed and some things detrimental can be killed in committee. You, as individuals, are in a position to send your representative to the Legislature with the knowledge and conviction that any suggestion sponsored by the medical profession is for the benefit of the public and it is your duty to do so.

I hope this year we may in our organization have faith and vision and by unselfish cooperation realize the fulfillment of some of the efforts toward our goal, the conservation of the health of the public—the highest ideal of our profession.

THE PSYCHOSES ASSOCIATED WITH PREGNANCY*

BYRON C. SMITH, M.D.†

Topeka, Kansas

The psychopathology associated with pregnancy presents a large and interesting field for study, due to its prevalence and the surprising scarcity of literature on the subject. The majority of us have seen cases of puerperal insanity demonstrated, little time, therefore, need be spent discussing the incidence of the disease. If pregnancy is a cause of, or has an important role in the precipitation of mental disorder, it is logical to assume that the record of admissions to a large psychopathic institution would indicate a majority of female patients and minority of male patients. In reviewing the records of admissions to the Topeka State Hospital over the last four-year period it is, on the contrary, interesting to observe male patients outnumber female patients by one per cent. Of course, the expectant father is to be given minimal consideration as a result of environmental changes which invariably take place when his wife becomes pregnant. However, he does not experience the direct organic, intrinsic changes of the pregnant mother, which are considered of major importance in the occurrence of this condition.

In this study the consideration of general paresis, alcoholic psychosis and psychosis due to drugs, which are more common among the males, was excluded. With these figures it is rational to question if pregnancy has not been given undue credit in the production of mental disease. Factors which, in my opinion, are of importance in psychoses associated with pregnancy are: hereditary predisposition to nervous instability; conscious and subconscious psychological conflicts resulting from environment; abnormality of the sympathetic nervous system and its closely associated endocrine dysfunction; the puerperal toxemias; postpartum hemorrhage, infection and embolism. A brief discussion of these factors will follow,

*Read before the meeting of the Missouri-Kansas Psychiatric Society, at Osawatomie, Kansas, December 13, 1933.

†Assistant Physician, Topeka State Hospital.

with a few case histories demonstrating some of the outstanding features.

HEREDITY

When the phrase "hereditary predisposition to nervous instability" is mentioned, many of the psychiatric organicists experience no feeling of doubt as to its influence; many psychologists, on the other hand, frown in an expression of disbelief and consider it as just another logical explanation which has been accepted by the opposing school without sufficient evidence. It is known that the mendelian law of heredity cannot be applied in a majority of families where insanity is prevalent but this by no means rules out the possibility of heredity. A hereditary predisposition is conspicuous in the insanity of twins where occasionally both members become mentally ill at the same time, with very similar symptoms, even when they do not live in the same environment. Convincing evidence of hereditary predisposition is brought to my attention by the admission of patient after patient to the Topeka State Hospital, whose relatives have records here and with whom the new victim has had little environmental contact. De Lee, who has attended thousands of women during pregnancy, states that bad heredity is found in nearly half of the psychoses during pregnancy, but he does not preclude the idea of a toxicosis, because he believes that such a taint does predispose to other toxemias as eclampsia and hyperemesis.

In view of such a variation of opinion regarding the influence of heredity, it is difficult to determine what per cent of puerperal psychoses should be attributed to this cause. Statistical studies of the question at this time show quite a variation in figures and are not very reliable. During the past decade psychopathic institutions have been compiling family histories in greater detail than ever before, which will result in more reliable statistical reports within a few generations. In reviewing the Topeka State Hospital records of patients suffering from psychoses associated with pregnancy, I find that about 30 per cent have a history of insanity in the family.

The following case report illustrates the possible hereditary factor:

Mrs. A., a white female, 28 years of age, housewife by occupation and mother of four children, aged 2 to 9 years, was admitted to the hospital in July, 1932. The family history denotes that her maternal aunt, a cousin on the maternal side, a paternal aunt and the patient's father were insane. The patient's symptomatology was characterized by fear of persecution by her husband, emotional depression, psychomotor retardation and expression of anxiety. An inquiry into the history revealed that she had been sad for some time but only recently began to express delusions of fear and self-insufficiency. She thought she was committed to the hospital for the purpose of being killed in atonement for the sinfulness of her relatives. It was also brought out that she had missed her last menstrual period. On physical examination the only abnormality of significance was a symmetrical enlargement of the uterus, which was diagnosed as a probable pregnancy. As time passed the uterus continued to enlarge while the patient's mental distress remained unchanged. Seven months after admission to the hospital she went into an uncomplicated labor and delivered an apparently normal baby boy. During the following six months she took a great deal of interest in the baby and experienced marked improvement in her mental state. Eighteen months after admission to the hospital she was in condition to go home after sterilization by partial salpingectomy.

Treatment of the above case in the hospital consisted of the usual sedatives, laxatives, tonics, hydrotherapy, psychotherapeutic suggestion, rest and general diet. Unfortunately nothing can be done to change the patient's heredity. This brings up the problem of treating undesirable heredity.

At the present time it is generally accepted that sterilization by partial salpingectomy is the treatment of choice. An experienced surgeon can perform the operation in a short interval of time and, in our experience, with little tendency toward postoperative complications. The procedure does not apparently alter the patient's sexual functions. Cases in which sterilization is contraindicated should be advised about the use of contraceptive

measures. Sterilization laws, already effective in many states, will eventually decrease the hereditary tendency in nervous and mental diseases.

ENVIRONMENT

The effect of environment in the production of psychological complexes is even more disputed than the factor of heredity. Psychiatrists of the Freudian school believe that traumatic, psychological situations of early environmental experiences are repressed to subconsciousness and, through associations later in life, are revived with resultant neurotic and psychotic manifestations. Other psychologists and psychiatrists do not accept the Freudian theory but do agree that environment is an important factor in the precipitation of mental disorder. The latter group direct their attention to logical conscious explanations of symptoms, while the Freudians regard the apparent cause, as if it were a symptom, screen or symbolism. Following many hours of consultation the Freudians arrive at a subconscious cause, explanation and interpretation of the patient's symptoms.

In profoundly psychotic patients the psychogenic mechanisms are nearly impossible to determine, making environmental study of the neuroses and milder types of psychoses preferable. Frequently, through introspection, these patients are first called to the attention of the physician by indefinite pelvic or other somatic complaints. Through their desires or fears of pregnancy they occasionally develop the symptoms of a false pregnancy. Eventually this class of patients find their way to the psychiatrist. Sometimes a change of local environment will produce a marked improvement in their condition and a temporary or permanent remission of the mental symptoms. This indicates that the immediate environment must be of some importance in the causation of symptoms. Many such cases do not improve with a change of local environment but when subordinated by psychotherapeutic interpretation and suggestion, they make an adjustment.

It is my belief that the environment of early childhood is of primary importance in producing maladjustments to environ-

ment later in life. The following case report is characteristic and demonstrates various environmental factors leading to the patient's mental distress.

Mrs. B., a white female, 30 years of age, married and secretary by occupation, was admitted to the hospital in March, 1933, for treatment of emotional depression, persistent vomiting and generalized physical emaciation. The onset of the symptoms dated back to a pregnancy the previous summer.

In the family history there was no evidence of insanity. Early in infancy the patient was bottle-fed, due to postpartum illness of her mother. When she was two months old her mother died and the patient was reared by relatives. She had little contact with her father who died when she was five years of age. During childhood she was delicate and subject to intercurrent communicable diseases. At 12 years of age she suffered from acute rheumatic fever. She was of average intelligence, completing grade school, high school and business college at 18 years of age.

During childhood she greatly resented living with her various relatives and was glad to become self-supporting. At 23 years of age she married a man several years her senior. She derived little pleasure from sex life with him but considered it a duty and did not complain. She consciously professed to love her husband but admitted that he was over-indulgent in his kindness to her and assumed a paternal attitude toward her.

During the summer of 1932 she became pregnant and began vomiting several times a day. She was employed in a secretarial capacity which made it necessary to do most of her vomiting at home. In the second trimester of pregnancy vomiting became more intense. She was given the bromide treatment which produced no change in her symptoms. She gave up her position but the vomiting continued and the pregnancy was instrumentally terminated at eight months parturition. The patient made an uneventful recovery but the baby died promptly.

Following the termination of pregnancy she ceased vomiting and made a tem-

porary adjustment. Shortly afterward while working she injured her hand and began vomiting again, following the same pattern displayed during her pregnancy. Her vomiting was so unpleasant to her husband that he also vomited when caring for her. She experienced no improvement while treated at home and was brought to the hospital a few weeks later in a weakened physical condition. On admission she was convinced that she could not retain food or fluids given by mouth. Other than generalized malnutrition she presented no gross physical defects. Within three days the patient ceased vomiting and began to gain physically. Treated essentially by suggestive psychotherapy she made rapid adjustment and went home four months later. Since leaving the hospital six months ago she has developed no further symptoms and seems to be well adjusted to her home environment.

In this paper, time cannot be consumed to discuss all of the psychogenic mechanisms of this case, but the gross environmental factors will be mentioned. Her infancy was thwarted by bottle-feeding, the death of her parents, and an undesirable childhood environment. The persistent vomiting expresses her denial of pregnancy, as well as her unwillingness to give life to an individual who might possess some of the characteristics of her husband. The pattern of vomiting discovered during her pregnancy was remembered, and projected as a symptom in the first illness thereafter, which happened to be an injured hand. By the persistent vomiting she accomplished self-desired punishment, carried out aggressions against her husband and promoted a beneficial change of environment.

THE SYMPATHETIC NERVOUS SYSTEM AND ENDOCRINE DYSFUNCTION

The sympathetic or autonomic nervous system is a very complicated and highly specialized neurological unit, which is developed as a comparatively late event in evolution. Along with, and very closely associated to it, the system of endocrine glands is developed. The anatomy and embryology of these two units has been exposed but their functions are still in need of explanation. The reciprocal asso-

ciation of the two systems is evidenced by stimulation of the sympathetic nervous system, producing secretion of the endocrine glands which, in turn stimulates autonomic response. A bivalent reciprocal influence between the psychological processes and the autonomic nervous system is also supported by much experimental data. In accordance with these three highly specialized functions, the human being has predominated all of the lower species of animals in self-preservation and reproduction.

The relation of the above functional units to pregnancy is very close. During menstruation the ovarian function is stimulated and very definite psychological changes take place. At this time women are quite frequently emotionally depressed and irritable. It has been reported that the majority of suicides among women occur at menstruation. During pregnancy a patient presents an increased sensitivity to irritation, a fact which was recognized by the Romans. A sign was placed by the door of a pregnant woman so that she was not disturbed by unnecessary stimulation. Patients in the puerperal state also show an increase in reflex excitability. The knee jerks are increased; sound, light and odors are more acutely perceived; the metabolic rate is increased and, not infrequently, the thyroid gland is enlarged. A generalized increase in muscular tonicity usually accompanies a normal pregnancy. All of these observations are evidences of autonomic influence.

In the psychoses associated with pregnancy, particularly the schizophrenic reaction types, evidences of sympathetic disturbance are quite outstanding. At the present time it is only an observation, the mechanism of which has not been explained.

A case report demonstrating some of these findings is Mrs. C., who is a white female, 24 years of age, married, housewife by occupation and mother of two children, aged 2 years and 3½ months, respectively. In the family history it is noted that her sister had a "nervous breakdown." The patient's developmental history was essentially uneventful. Her psychosis had its onset during the last trimester of her last pregnancy. It was

first manifested by over-enthusiasm in religion and auditory hallucinations. Following the delivery of the child her mental symptoms increased and she was brought to the hospital. On admission she was hallucinated, disoriented, ambivalent, excited and expressed disturbance associations. Physical examination revealed a generalized malnutrition, hyperactive knee jerks; cold, cyanotic extremities; dilated pupils; enlarged thyroid gland; tachycardia and dermatographia, all of which denote disturbance of the sympathetic nervous system.

For several weeks it was necessary to administer nutrition by a nasal tube corresponding to her delusions about the food being poisoned. About three months after admission to the hospital she began to improve. Along with the usual institutional treatment she was administered daily hypodermic injections of pituitary extract. She was given alternate doses of the extract of anterior and posterior lobe. Besides the specific endocrine effect of the pituitary extract it was theoretically given for its stimulating action on the uterine musculature. Ten months later the physical abnormalities subsided, the patient had complete insight and was paroled to her husband. In the home environment she was well adjusted and was discharged from our records as restored to sanity.

In discussion of the case it is very evident she presented symptoms referable to the sympathetic nervous system but whether it was a cause or an effect is more than can be explained at this time.

PUERPERAL TOXEMIAS

The toxemias of pregnancy have long been recognized and many advances have been made regarding their diagnosis, pathology, prognosis and treatment, but the etiology remains theoretical. Psychoses associated with the puerperal toxemias present quite a variation in type. The mild and least consequential mental symptoms are the temporary periods of confusion and convulsions associated with eclamptic toxemia. These mental symptoms are usually of short duration if the patient survives the eclampsia.

Korsakoff's psychosis has been reported as arising from puerperal toxemia. The disease, as originally described by Korsakoff,

is characterized by memory defects, tendency toward fabrications and disorientation, usually associated with a polyneuritis. The most common etiological toxin in this disease is alcohol, but other toxins, such as bacterial toxins and puerperal toxins may produce the above mentioned symptoms. Of the patients admitted to the Topeka State Hospital during the past 15 years, none have been recognized as being Korsakoff's psychosis, due to puerperal toxemia.

Chorea gravidarum is another type of psychosis associated with the toxemias of pregnancy. It is a rare condition but several cases have been reported. It usually occurs about the middle of pregnancy, associated with jaundice and other toxic symptoms. At first the choreic movements are localized, later becoming generalized and frequently preventing sleep. The associated mental state is one of delirium, excitement, disorientation, hallucinosis, irritability and subsequent exhaustion. The prognosis is grave and specific treatment is not known. One of these cases, recently treated at the Topeka State Hospital, terminated fatally.

HEMORRHAGE, INFECTION AND EMBOLISM

Postpartum hemorrhage may produce temporary loss of consciousness or a short period of mental confusion, as a result of cerebral ischemia. Such mental states are usually of short duration and of little consequence unless the hemorrhage is severe enough to initiate death. The loss of a large quantity of blood lowers resistance to infection and is a predisposing factor in puerperal sepsis.

Various theories have been advanced regarding the influence of postpartum infection on puerperal psychoses but it still remains an open question. It is possible that the high fever and septicemia are important factors. Toxins arising from infection and disintegration of retained placental tissue are thought to be poisonous to the functions of the central nervous system.

In my opinion small embolisms in the postpartum period are more common than would be expected from our clinical observations. A small embolism does not necessarily produce symptoms unless it obstructs circulation to selected areas of

the nervous system. The symptoms produced in such a condition depend entirely upon the location of the infarcted area. Besides the neurological manifestations it is not uncommon to see a corresponding psychological change take place.

A case report illustrating postpartum embolism is Mrs. D., a white female, 38 years of age, housewife by occupation and mother of six children. She was admitted to the hospital in October, 1933, for the treatment of a psychosis and left-sided hemiplegia. Nothing of significance was noted in the family history or developmental history. Her first five pregnancies were uncomplicated. The patient's trouble started following the birth of her last baby. The eleventh postpartum day she was sitting at the dinner table, feeling well and conversing with her family, when she suddenly slumped in her chair, becoming unconscious. When seen by a physician a few hours later it was discovered she had a left-sided hemiplegia with involvement of the face and tongue. It was assumed she was suffering from a stroke. For several days her consciousness was clouded. Later her mental state began to improve but she continued to express paranoid delusions and ocular hallucinations. She also complained of cloudy vision. When admitted to the hospital some three months later her mental state was unchanged and the residual left-sided hemiplegia was quite evident. The facial paralysis had nearly subsided. Further examination revealed a positive Babinski, ankle clonus, increased deep reflexes and disuse atrophy of the musculature of the extremities on the left side. In view of her age, the fact that her blood pressure was not elevated, the absence of arteriosclerosis and a negative blood Wassermann, cerebral hemorrhage was considered a remote possibility. Ophthalmoscopic examination of the right eye was negative. The fundus of the left eye presented a secondary optic atrophy and obliteration of the central artery. The abnormality of the left eye was produced by embolism in the central artery of the retina.

Findings in this case indicate the patient was suffering from multiple emboli apparently arising as a puerperal compli-

cation. The prognosis is poor and the treatment is palliative.

PROGNOSIS IN THE PSYCHOSES ASSOCIATED WITH PREGNANCY

It has been clearly illustrated that many different types of psychoses occur during pregnancy and the outlook for recovery depends on the individual and the type of mental disorder presented. Cases not exhibiting definite tendency toward adjustment during the first 18 months of the disease, render a bad prognosis. The patients who gain early insight offer a more favorable prognosis than those who do not. The schizophrenic and manic depressive reaction types have a tendency toward a recurrence of mental trouble later in life. The neuroses and less serious types of psychoses frequently make a permanent psychological adjustment.

TREATMENT

All types of puerperal psychosis respond to treatment in a hospital more promptly than can be expected in the home environment. The nutrition of these patients is important and a nourishing diet is indispensable. Early toxic states should be given the benefit of abundant fluid intake. Eliminative treatment by cartharsis has been advised by some authors but I do not believe its beneficial significance is proportionate to the physical and mental distress it produces. A bowel movement should occur every two or three days and, if necessary, should be aided by the use of a mild laxative or low enema. Physical defects should be recognized early and given the indicated treatment. Patients in good physical health seem to derive some benefit from hydrotherapy. Excited cases should be given the necessary sedatives to induce adequate rest and sleep. The prolonged use of morphine is contra-indicated and should be substituted by some of the other hypnotics or sedatives. Endocrine products should be used in indicated cases.

Selected patients should be offered the benefit of psychoanalysis. Psychotherapeutic suggestion is of some value in most cases. A change of environment seems to be of value in certain incidences. Cooperative patients are benefited by occupational and recreational therapy.

Sterilization by partial salpingectomy does not alter sexual function and eliminates the trauma of future pregnancies. Hereditary predisposition to nervous instability being recognized, society should be glad to accept the possibilities of sterilization.

CONCLUSIONS

Pregnancy is a predisposing and precipitating factor in psychopathology associated with the puerperium.

The psychological reaction of a patient to her pregnancy is affected by: heredity, environment, the sympathetic nervous system, endocrine dysfunction, puerperal toxemias, post partum hemorrhage, infection and embolism.

The prognosis in psychoses associated with pregnancy depends on the physical health of the individual, the type of mental abnormality, the administration of indicated therapy and the reaction of the patient.

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COCOMALT

Specialists in the study of child nutrition have been quick to recognize the value of milk as the mainstay of the child's diet.

"But what," asks the frantic mother of a youngster who dislikes milk, "can I do to make my child eagerly want that which he now rebels against?"

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Thus Cocomalt not only induces youngsters to drink all the milk they require—it provides extra food-energy value as well and a rich supply of Vitamin D. Cocomalt is accepted by the Committee on Foods of the American Medical Association.

LYMPHOGRANULOMA INGUINALE*

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Lymphogranuloma Inguinale or Climatic Bubo was first established as a clinical entity by Nicolas, Favre and Durand in 1913. While originally thought to be a disease of the tropics and marine centers, it is evident from the increasing number of cases reported that it is widely distributed throughout the United States. Doctors DeWolf and VanCleve of Cleveland, Sulzberger and Wise of New York, Tomlinson and Cameron of Omaha and Amtman and Pilot of Chicago have all reported a rather extensive series of cases. Recently Doctors Ives and Katz of St. Louis have reported the first case in Missouri. It is our purpose to record a case from Kansas City and to review briefly the clinical description of this now much discussed clinical entity.

HISTORY

In the past, bubo without genital ulcer or with a genital lesion of such transitory nature that it escaped detection, has been frequently encountered by clinicians throughout the temperate zone. Such a swelling in the groin, indolent in character with the formation of numerous sinuses, presented a diagnostic problem that defied solution. Since the publication of the observations of Nicolas, Favre and Durand and an extensive subsequent literature, Lymphogranuloma Inguinale has been established as a clinical entity. Frei of Hamburg developed an antigen, and the Frei test is considered specific and a positive Frei reaction is essential in the establishment of a definite diagnosis of Lymphogranuloma Inguinale.

Etiology and Pathology—The disease is transmitted by the sexual act; accidental inoculation has been described. The etiology is unknown. Numerous investigators attribute the disease to a filtrable virus. All bacteriological studies have, so far, produced negative results.

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Pathologically, the affected glands are found matted together and show multiple abscesses. Microscopic sections show small star or irregular-shaped abscesses surrounded by granulation tissue. The glands may resolve without suppuration. The microscopic picture is not considered characteristic.

Clinical Symptoms—The exact period of incubation is unknown. Ten to 30 days subsequent to sexual exposure there develops a slight abrasion of a transitory character. The initial lesion is so benign in character and behavior that the literature contains but scant description of it.

Two or three weeks after the appearance of the primary lesion, the affected glands start to indolently swell and undergo suppuration with the formation of sinuses through the skin. This process usually requires several weeks. These sinuses are often slow to heal and may require months. In the male, inguinal nodes of both sides are involved in about 25 per cent of the cases. Presumably due to the fact that the original lesion in the female is on or near the cervix, the perirectal nodes are usually affected in this sex.

The suppuration of these glands may cause rectal fistulae and the healing process result in high rectal strictures. The Frei test has been of great aid in

identifying these cases. In both sexes, a mild remittent fever and malaise sufficient to enforce bed rest are common.

The Frei Test—This is a specific intradermal test for Lymphogranuloma Inguinale introduced by Frei in 1925. The Frei antigen is prepared by aspirating pus from an unruptured bubo and diluting it 5 to 10 times with normal saline, and inactivating it in a water bath at 60 degrees C. for two hours the first day and one hour at the same temperature the second day. The usual tests for sterility are carried out before the antigen is injected; 0.1 cc. is injected intradermally, so as to produce a good wheal. The reaction as described in the case reported is a typically positive one. The technique and reaction closely simulate the Schick reaction.

Diagnosis—The disease must be differentiated from the bubo of soft chancre, syphilis and pyodermic infections. The rapid development of the adenitis, characteristic multiple ulcers, presence of Ducrey bacillus and auto-inoculability of the soft chancre make the differentiation not difficult.

The adenitis of syphilis rarely breaks down and the concomitant signs of lues are present.

Pyodermic infections of the genital or

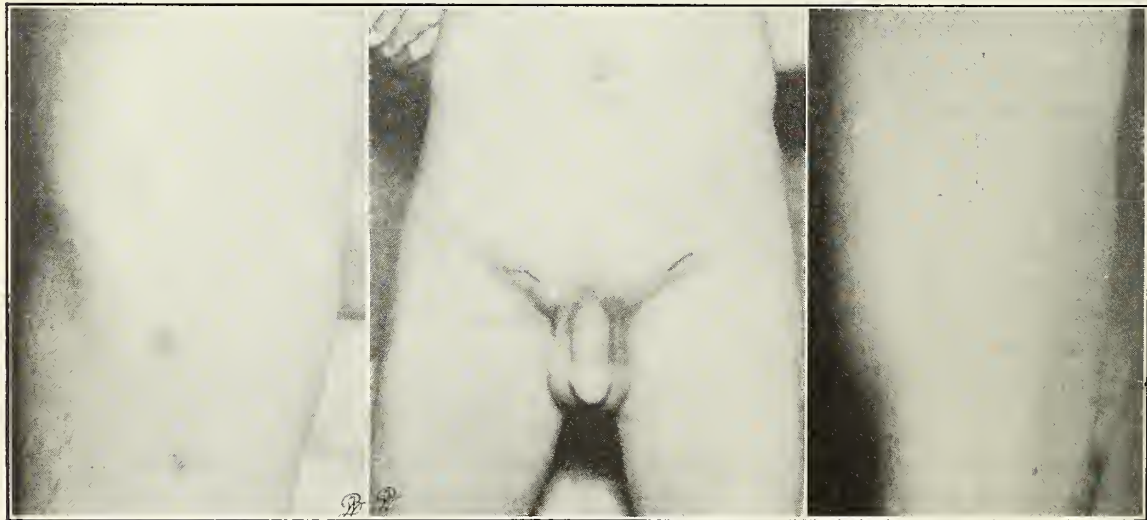


Fig. 1. Positive Frei reaction obtained 36 hours subsequent to intracutaneous injection of the antigen made by the Frei method from the pus obtained by aspiration from the case under consideration.

Fig. 2. Photograph of the draining bubos from the case of lymphogranulomatosis under discussion. Note the absence of a genital lesion.

Fig. 3. This individual, suffering from early secondary syphilis, received Frei antigen in the arm in exactly the same dosage as the individual who suffered from lymphogranuloma inguinale. Note the complete absence of cutaneous reaction.

lower extremities may result in suppuration of the inguinal glands. Here the history, site of lesion and presence of pyodermic organism enables one to recognize the etiology.

Prognosis—The disease rarely results fatally. Prolonged disability due to the slow evolution of the disease is common.

Treatment—Treatment is unsatisfactory. Early surgical extirpation of the affected glands has been recommended as the best therapy. Incision and drainage of the bubo with application of the usual antiseptics is the most common procedure.

Roentgentherapy, the injection of the antigen and other measures have been employed with varying success.

CASE REPORT

A case occurring in Kansas City is herewith reported.

J. N., age 27, was admitted to the Kansas City General Hospital, April 21, 1933, with a swelling of the glands of the right groin. The swelling had first been noticed two weeks before admittance to the hospital. Five weeks prior to admittance, he had noticed two small penile sores which had lasted about two weeks, healing with slight superficial scars. The patient admitted frequent and promiscuous sexual exposures preceding the genital lesions.

Examination revealed a fluctuating bubo of the right groin the size of a large lemon. The skin of the abscess was markedly thinned and evidently the abscess was about ready to rupture through the skin. One day after his admittance to the hospital the abscess was incised and several drams of yellow pus drained out. Seven days after his admittance, he was discharged from the hospital. The wound at the site of the abscess was still open and draining a few drops of pus each day.

On May 5, 1933, he was re-admitted to the hospital with an adenitis of the left inguinal glands of three days' duration. By May 12, the glands had abscessed and were on the point of rupturing through the skin. Incision of the abscess was followed by a drainage of pus similar to that of the abscess in the right groin, but considerably less in amount.

The patient was discharged from the hospital June 2, 1933. At this time, there

were still irregular small multiple ulcerations at the sites of the abscesses which discharged a small amount of pus.

The past history was essentially negative except for one attack of gonorrhea ten years previously and the admittance that he had acquired syphilis in 1928, for which he had intensive treatment extending over two years, being pronounced cured at the end of this time.

The Kahn and Wassermann tests were negative; white blood cells, 12,800; polys. 88 per cent; lymphocytes 12 per cent; red blood cells, 4,120,000, and hemoglobin 85 per cent.

The Frei antigen was injected intradermally in 0.1 cc. doses in three areas of the right arm. This was followed by the formation of buckshot sized papules surrounded by an areola the size of a nickel. The reaction reached its maximum 48 hours after injection, the erythema fading after that time, but still visible five days after the injection. The antigen similarly injected into a control case gave a negative reaction.

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SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six tablespoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

RHEUMATIC HEART DISEASE

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The "rheumatic state" with its protean manifestations and cardiac involvement still exists as a major problem in medicine and in public health work. In order that one may understand rheumatic heart disease, one should acquire a bird's eye view of the so-called "rheumatic state." It is legion now that this disease offers a diversity of symptoms. I wish to direct your attention to its infectious nature, to its family, seasonal and climatic incidence, and particularly to its chronicity.

Since the work of Cheadle in 1888, we fully accept the fact that while there may be predominating joint symptoms in rheumatic fever, the major attention should be directed to the heart. Too, more recently, it has been shown that rheumatic fever is really a general circulatory disease—pathological changes occur in many parts of the body.

The incidence of the onset of rheumatic fever is greatest between the ages of 5 and 15, the average being around 7 years. It is interesting to note that disease incidence among several members of a family is as high in rheumatic fever as in tuberculosis.

We do not accept the idea of a specific strain of streptococcus as being the causative factor in rheumatic fever. The research work with blood cultures in this disease has brought us to no definite goal; some authors report positive streptococcal cultures while others fail to substantiate their findings. At the present time, we lean toward the theory that rheumatic fever is a streptococcic reaction in hypersensitive individuals, either through the influence of foci or by repeated infection. The probable mechanism of the spread and recrudescence of rheumatic fever is by means of upper respiratory infections, manifesting itself as a coryza, tonsillitis, pharyngitis, bronchitis, sinusitis or a "grippe."

The diagnosis of a typical acute rheumatic fever infection with its migratory

joint symptoms, fever, malaise, sore throat, leucocytosis and, later, cardiac involvement, offers no difficulty. Clinical signs of cardiac damage may appear as late as six months to a year after the onset of the acute attack. However, when the disease is not typical in onset or in symptomatology and takes on a more subacute or chronic course, the diagnosis offers difficulties. The commonest symptoms encountered are fatigue, irritability, muscle pains, epistaxis, pallor, vomiting and failure to gain weight. The presenting signs in this group are joint involvement, upper respiratory infections, fever, leukocytosis, a form of heart block, rheumatic nodules, skin manifestations, chorea and anemia.

Rheumatic heart disease in childhood and in adult life offers different problems in regard to treatment. The adult with rheumatic heart disease offers a mechanical problem in treatment—on one side stands the cardiac reserve, and on the other side stands the cardiac damage and bodily activity. However, the treatment of rheumatic heart disease in childhood is entirely a problem concerning infection. The treatment is symptomatic; bed rest is still the important factor. The salicylates are used since they are the most efficient analgesics and antipyretics, but recent experiments give no evidence that salicylates prevent cardiac complications or shorten the duration of the disease. Sodium bicarbonate is an essential drug to combine with the salicylates. The removal of all foci of infection remains a necessary adjunct in the treatment of rheumatic heart disease in childhood.

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Cypress Oil, N.N.R. and Oil of Cypress, Schimmel and Co. Omitted from N.N.R.—Cypress Oil, with the accepted brand, Oil of Cypress, Schimmel and Co. (Fritzsche Bros., Inc., distributor) was first included in New and Nonofficial Remedies in 1912 as a palliative preparation for use in whooping cough. The Council on Pharmacy and Chemistry has reviewed the evidence for the usefulness of the product. There appears to be little or no recognition of Cypress Oil in American or English books of pharmacology. In the light of these considerations the Council concluded that there is no good reason for the continued inclusion of Cypress Oil in New and Nonofficial Remedies and voted to omit it with the accepted brand. (Jour. A.M.A., April 7, 1934, p. 1154).

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Gas Bacillus Infection Following Subcutaneous Injection of Salt Solution

THOMAS G. ORR, M.D.*

The simplest procedure in surgery may on rare occasions result in serious consequence. The ordinary hypodermic injection has several times caused death. Local complications from hypodermic medication are so very uncommon that little thought is given by the physician to such a possibility, and to the average nurse the occurrence of serious infection following subcutaneous injection is practically unknown.

Junghanns¹ has reviewed the literature on gas gangrene due to hypodermic or intramuscular injections of various drugs and has found 60 cases recorded up to June 1933. To this number he adds a personal case.

The following case is reported as an example of gas gangrene following the subcutaneous administration of physiologic sodium chloride solution.

H. L., colored male, aged 70, was admitted to the University of Kansas Hospital on March 10, 1932, and died on April 11, 1932.

This patient entered the hospital with a strangulated right inguinal hernia. An operation was done at once and the hernia repaired. Immediately following the operation two liters of physiologic saline were given beneath the skin in the outer side of each thigh. On the second postoperative day, his temperature rose to 101 degrees and on the third and fourth days it increased to 103 degrees. This gradually subsided until it reached normal on the eighth postoperative day. On succeeding days, however, the temperature rose daily to 101 degrees for a period of 10 days. The hernia wound healed. On the sixth day following operation, an abscess of the right thigh was incised and a large quantity of blood-stained pus was evacuated. This infection extended to the deep fascia. Aerobic culture showed a streptococcus hemolyticus. At the end of three and one-

half weeks an area of skin five by eight inches had become completely gangrenous. At this time the gangrenous skin and a large slough, which included the deep fascia on the outer side of the thigh, was removed. The skin and subcutaneous tissues were involved from the knee to the anterior superior spine. He died seven days after the last operation. Autopsy showed a healed hernia wound, bronchopneumonia and extensive cellulitis of the right thigh. The gas infection had evidently not spread beyond the right thigh.

Cultures from the wound made three and one-half weeks after the hypodermic injection of salt solution showed a gram positive organism resembling bacillus Welchii and a staphylococcus aureus. Injection of washings of the wound into a rabbit showed extensive subcutaneous emphysema and emphysema of the liver after an incubation of 24 hours. Culturally and morphologically the organisms recovered from the rabbit resembled bacillus Welchii. At the autopsy, culture and smears were taken from the sloughing area in the right thigh; both showed an organism resembling the bacillus Welchii.

Infection in this case undoubtedly followed the hypodermic injection of salt solution. Soon after the operation the patient grew delirious and removed the needles from the thighs, necessitating their replacement two or three times. The culture from the abscess six days after the hypodermoclysis showed the streptococcus hemolyticus. At that time, there was no evidence of gas bacillus infection noted. The fever continued and the infection progressed until finally the gangrene of the skin suggested gas bacillus infection. At no time was there any evidence of a rapidly developing infection, and not until the cultures were made was the diagnosis definitely established. This was evidently a rather mild gas bacillus infection associated with a streptococcus and staphylococcus. Whether or not the gas bacillus caused the death is somewhat problematical. Undoubtedly the death was due to the infection following hypodermoclysis.

Sixty-two cases of gas bacillus infection following hypodermic or intramuscular injections, recorded in the medical lit-

*Department of Surgery.

erature, makes the disease of sufficient importance to be impressed upon the minds of physicians and nurses.

The prevalence of anaerobic gas producing organisms on the skin is emphasized by the findings of Roberts, Johnson and Bruckner², who cultured anaerobic spore bearing rods from the unprepared skin of the abdominal wall in 21.7 per cent of patients examined. Jennings³ found a positive culture of the gas bacillus in 90 per cent of appendices removed at operation. That the intestinal tract harbors pathogenic gas producing bacilli in a high percentage of individuals is now common knowledge. It is, therefore, quite to be expected that a gas gangrene may develop in an occasional clean wound or follow abdominal operations which involve opening the intestinal tract. There have been in this hospital three cases of gas bacillus infection following clean amputations and three cases complicating enterostomy for intestinal obstruction.

The seriousness of gas gangrene following hypodermic or intramuscular injections is evident in the excellent review of Junghanns¹, who notes that only four of the 61 cases recorded had recovered. In this group of cases, there were six injections following the use of saline solution.

The source of the infecting organism is usually not to be determined. Contaminations from the skin, needle, cleansing solutions, injected solutions and human hands are all possible sources and all to be avoided by careful preparation and technic.

Any unusually acute pain developing a few hours after hypodermic or intramuscular therapy should suggest the possibility of infection with the gas bacillus and make immediate investigation mandatory. If such infection exists, it is obvious from the above quoted death rate that immediate and efficient treatment is imperative if death is to be avoided. In the virulent, untreated cases, death may be expected in 24 to 48 hours.

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CASE REPORTS

Tachycardia Found On Examination of Apparently Healthy Individuals*

L. B. GLOYNE, M.D.†

Kansas City, Kansas

The following case is presented not because it is unusual, but because it presents a very practical problem that is before this society at this time.

Miss C. W., single, age 18, high school student, height 5 feet, 7 inches; weight 105 pounds—more than 20 per cent underweight. She has a pulse rate that varies from 110 to 150. She is quite nervous, has difficulty in holding her hands still; with arms extended, she has a marked tremor of both hands; some tremor of the tongue, and considerable general restlessness. Right lobe of thyroid is palpable with difficulty.

The important feature in this girl's history is, that she was examined in November, 1932, at the regular examination of high school students. Evidently no physical defects were found, because she and her mother both report they were not informed of any departure from normal except underweight. Later she was given the option of dropping gymnasium and joining the nutrition class because she was "more than 10 pounds underweight". Although she was approximately 20 per cent underweight, she continued in this class without medical supervision. In addition, the teacher of the nutrition class noted she did not gain weight while in this class, which was unusual.

A short time after the high school examination, (March 1933) she was examined for life insurance and rejected. After her rejection her mother insisted that she go to a physician to find out what was the matter with her, because she was sure that the insurance company would not have rejected her if she had been in good health. This young lady refused to go to the physician, and argued with her mother that she had nothing the matter

*Read before the Wyandotte County Medical Society, at Kansas City, Kansas, December 19, 1933.

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with her, because of the fact that she had passed the doctor's examination at the high school, and had been allowed to take gymnasium. This month (December) she again applied for life insurance. At the time of the last examination her findings were as given in the beginning of this discussion. Evidently these findings are not much dissimilar from what would have been found by a careful examination one year ago.

There are at least four major diagnoses which must be considered in this case.

First. A constitutionally weak young lady in the adolescent period, who has improper health habits, including insufficient sleep; improper amount of school work, and extra-curricular activities, and an improper adjustment to surrounding environment. If that be the case then certainly the school authorities should know it, so that proper steps could be taken.

Second. Hyperthyroidism, which is suggested by gland palpation but which may only be conclusively eliminated by having a basal metabolism rate done.

Third. Tuberculosis of tracheobronchial glands or some form of pulmonary tuberculosis located in a place not causing cough or expectoration. Certainly one sees on x-ray examination plenty examples of calcified lymph glands in people, who do not recall having had any definite attack of "lung trouble". A Mantoux skin test would be of help in determining whether or not tuberculosis in any form is a factor in this young lady's condition. The simple procedure of taking an oral temperature over a period of time might give some valuable information. This could be done by the teacher of the nutrition class probably as well as by anyone else except by the parent who would be in a position to take the evening temperature.

Fourth. Tachycardia with or without recognizable organic base. Certainly, if such be the case, it may later become clinically extremely significant. Such a diagnosis would be acceptable only after a careful study of the case and the elimination of other possibilities.

I am not in a position at this time to make a positive diagnosis on this young lady, but present the case as one illustrat-

ing how much harm may be done by giving one a sense of false security, when large groups of individuals are examined hurriedly. Certainly the amount of damage done in a case like this, in addition to the reflection on the profession by those who do not understand the incompleteness and inaccuracy of this type of examination, partially offsets the amount of good that has been done in other cases where disabilities have been located. This young lady is attending school at this time, and she is not in the nutrition class nor is she taking gymnasium, because her course does not require it. With the proper standard examination originally, and the proper follow up, this case would not be in school at this time, unless under competent medical supervision.

It has been my contention that the proper examination of apparently healthy individuals requires more time and greater diagnostic ability than is required in most cases of severe sickness.

I believe that if this young lady had been brought into a physician's office and carefully examined her physical defects would have been recognized, and she would have been under medical supervision during this present year.

When this type of case is encountered during the examination of students, a problem is immediately brought up as to its proper disposition. A great many times a mere notification to the family is not sufficient to enlist their support. When examinations are conducted under recognized approved methods, this young lady would be checked up frequently and, if necessary, visits in the home by a nurse would be made to enlist the cooperation of the parents, and if the necessary cooperation were not obtained, it would then become the duty of the school authorities to see that the person in question is not taking work that is injurious to herself, or that she is not suffering from a disease that could be communicated to her classmates.

In conclusion, I want to state that I consider this case illustrates very nicely the kind of problem that is before this society, and a great many other societies, who are attempting to examine large groups of individuals hurriedly and with inadequate

facilities. I have encountered only this case in my limited practice this year, that is such a good example of the defects of our system. If each one of you had time to report your experiences, certainly this would be multiplied many times.

I want to emphasize that my criticisms are constructive and not destructive. I am heartily in favor of the medical examination of the school child. But when it is done, I believe it should be done in a way that brings credit to the examiners, and does not give a number of persons suffering from physical defects, a sense of false security.

Pitressin in Surgery*

CYRIL V. BLACK, M.D.

Wichita, Kansas

Pitressin (Beta-Hypophamine) is the pressor and anti-diuretic principle of the posterior lobe of the pituitary body. Since June 1st, there have been 60 surgical procedures at the Sedgwick County Hospital in which Pitressin has been used to prevent distention or ballooning of the intestines. In this series there were:

	Cases	Deaths
Acute appendicitis	8	..
Ruptured appendix (3 children)....	7	1
Perforated peptic ulcer	3	1
Laparotomies	25	1
Gastro-enterostomy	1	..
Congenital pyloric stenosis	1	..
Inguinal hernias (2 strangulated)...	9	..
Femoral hernia	1	..
Umbilical and ventral hernias	4	..
Ruptured tubal pregnancy	1	..

Pitressin was also used to prevent distention as follows: Postoperative in seven cases; in three cases of general peritonitis which were not operated; in a case of transverse myelitis due to a bullet wound in the lower thoracic region for retention of feces when everything else had failed, and in one case of tabes. In the series, one death was due to pulmonary embolus occurring on the fourteenth day. The fatal ulcer case had been perforated for four days before coming to surgery.

In one case the Pitressin was given during the operation and we had a

chance to observe its effects. The intestines which had been greatly distended soon became quite small and the contracted bands were very noticeable. In this case, closure of the operative wound would have been very difficult had this not been done.

In one of the ulcer cases, Pitressin was used to control the distention that accompanied the peritonitis that followed the operation, relief coming 10 to 15 minutes after the injection. In the case of an indirect strangulated hernia, which had been so for several hours and had been manipulated considerably, the loop of strangulated intestine (approximately eight inches in length), was quite black and distended when exposed but contracted immediately when the band was cut and the blood supply reached it. Pitressin was used at four hour intervals for the next three days. There was no distention nor any of the so-called "gas pains."

The effects of Pitressin: If Pitressin is given at the time the anesthetic is begun, by the time the abdomen is open, the intestines have contracted and have an appearance similar to that observed when a patient is under spinal anesthesia; that is, the small intestines appear to be squeezed dry and hang in a small limp cluster. The contracted bands can be readily seen. There is little or no change in the large bowel, and also, many times in the last foot of the small intestine, while at other times this is contracted to the ileocecal junction. However, with the small bowel contracted, it is an easy matter to pack the intestines out of the operative field. But either in closing a difficult case or where there is free pus, this feature of the use of the drug is very beneficial. The benefits can especially be noticed in men who are about 30 that come up for an abdominal operation. Often there seems to be great difficulty in "getting these patients down enough" to make a decent closure, but with the use of Pitressin, it is much easier to keep the viscera out of the way and closure is less difficult.

In a normal person up and about, the experience was as follows: About five minutes after Pitressin had been admin-

*Read before the meeting of the staff of the Sedgwick County Hospital, Wichita, Kansas, January 9, 1934.

istered, the patient felt a dizzy sensation and weakness, perspiration was free and there was thought of fainting. There was a very peculiar feeling in the abdomen "as if part of it was missing." In a few minutes the bowels began to move and the intestines were completely evacuated. After that the other symptoms disappeared. Some of the bed patients complained of similar sensations which were relieved after the bowels moved or the flatus passed off. One patient vomited each time about 10 minutes after the hypodermic while some complained of a nauseated feeling for a few minutes only; however, more than half of them had no effects of this nature. It has never been necessary to repeat the Pitressin during an operation. Some of these have lasted for an hour and a half.

In the case of the five weeks old baby with the congenital pyloric stenosis, the condition having been present two and one-half weeks, the intestines remained contracted throughout the operation, so much so that they never showed in the operative field at all. There was no trouble in closing although the stomach remained distended and the patient was under very light anesthesia. The dosage was three minims in this case. This dosage was repeated every four hours for three days. On the next day, the baby began to take the breast normally and has had no further difficulty.

Of course it is understood that charity patients are not so apt to suffer from shock or die following abdominal operations as are the private patients. Physicians bring out this fact every day and there seems to be some foundation for it. It also seems that patients in charity hospitals do not suffer from gas pain as they do in private hospitals. Probably the reason for both of these is economic. It does seem that the use of Pitressin has lessened both of these even in the charity patients, probably for two reasons:

1. There is very little if any distention of the small bowels during the operation, therefore less loss of tone of the intestinal muscles and stretching of them resulting in less soreness.

2. The intestines stay out of the way and there is less packing and trauma to them. There is less danger of them coming into contact with any pus that should be present.

—R— WHAT THE DOCTOR DOES WITH HIS MONEY

M. ANTHONY PAYNE, Ph.D.,

Atchison, Kansas

Even in the flurry of hurry and specialization, the general practitioner still exists in Kansas. These honest wholesouled unselfish men are prepared by years of service to diagnose and prognose, sympathize and prescribe for all the ailments of their patients, whether the disorder is alimentary, circulatory, secretory or neurotic.

This type of doctor does 24-hour duty. He is always at the service of his patients. They trust him and know that he can be located if they need him; that in case of emergency he will risk everything, dare anything to get to them. The NRA hasn't shortened the doctor's time schedule or increased his income. And this brings us to the money problem.

Once I belonged to that class of people who believe that all doctors are wealthy because they drive fast cars, have comfortable offices and wear good clothes. Recently I had a chance to analyze the situation. A little streptococcus settled on my mitral valve, made a patient of me, and gave me leisure time for retrospection. The good doctor was called. He tapped my chest, counted my pulse, listened to my heart and looked at my teeth. Then he shook his head. The bed for me absolute quiet and rest for a few weeks! I was horrified. What would I do about my classes? How could I lie in bed! Well, just for a day or two, coaxed the doctor. Now, that sounded different. Any tired, busy teacher is willing to rest for a day or two, so I yielded and went to bed.

The next day the doctor brought a dentist to the house with him. The dentist extracted a crowned molar, and doctor and dentist declared there were pus sacs at the roots of the tooth, though for the life of me, I couldn't see the trace of a sac. The following day the doctor assured me that

I was better and that some good repair work would be done, if I could stay in bed and give nature a chance. Then in a very short time I might be able to resume my teaching without any great inconvenience. And so under the doctor's patient tutelage, I remained in bed for *three* months. My heart calmed down and I got a close-up of the doctor, for he would drop in nearly every day and we'd have a little chat. He said that *he* had to encourage me, since he wouldn't let me have company. He told me a thousand stories. I heard of patients who had no patience and now had no hearts and of patients who were patient and now had good hearts. I learned some bacteriology and a little *materia medica*. I got to know the doctor's wife and his three children. Gradually I realized that it had not always been so easy for this optimistic unselfish man to give his children a good education and at the same time maintain the standards demanded of the doctor; a comfortable office, good clothes, and at least the appearance of success.

One day the doctor told me with some pride, that he had just bought his wife a frigidaire. I was sure that he meant a *new* frigidaire. Was it possible that a medical man could still be buying his ice, when every grocery store clerk owns his own auto, electric sweeper and ice-machine! Such was the case. He laughed at my surprise and told me, with a twinkle in his eye, that his wife liked the ice man. Then in a serious tone he added that times had not been so good and so many people were in want that he had not felt like investing in many luxuries. After this talk I noted the doctor's few personal needs. It came to me that a man of 60 doesn't acquire his unselfishness in a day. He has learned to sacrifice time, comfort and money, for others. There comes the money again, so now to the point.

About six weeks ago this doctor called on the dean of one of our Kansas colleges for girls. (I am a member of the college faculty, hence this bit of inside information.) He presented the dean with a check, requesting that it be placed to the account of some poor girl, if it would cover the cost of a semester's tuition, books, and incidental fees.

The dean assured him that the amount was more than sufficient. "You see", the doctor added, "my own children are out of school, and I feel that I could be helping someone else a little. However, I would just as soon the young lady didn't know that I am helping. It might make her feel obligated."

The dean, delighted at this unexpected "scholarship", called one of the many girls, who on account of financial difficulties in her home, thought that she would have to stop college in her junior year. You may be sure that she accepted the benefaction, and now, being a woman, is dying of curiosity to know who the fairy godfather is.

And so goes much of the doctor's money. Kansas is blessed with many of these good all-round practitioners, who are in the habit of giving time, energy, talents and money to aid their fellowman. May their tribe increase!

—R—

LETTERS FROM A KANSAS DOCTOR TO HIS SON

JOHN A. DILLON, M.D.
Larned, Kansas

My dear Boy:

Received your letter and was relieved to hear that you were safe and sound after going through the recent election. Just why you wanted to risk life and limb by acting in the capacity of challenger at a voting precinct is beyond me. Your mother would have had nervous prostration had she known you were contemplating anything of this kind. As it is I shall say nothing to her about it. Understand we are willing for you to take up stunt flying if you are so inclined; neither have we especial objections to your hauling truck loads of dynamite through the oil fields. But interesting yourself in politics in Kansas City, Missouri, is strictly prohibited from this end of the line.

In spite of your extravagances we are still fond of you. There are occasions when the jeopardizing of human life is justified but taking this risk by mixing up in ward politics in an alien city is not one of these occasions. You may have a temporary satisfaction of having done your duty as a good citizen and anyway you succeeded in casting your vote. It probably wasn't

counted but of course you couldn't be sure of that. Then again if Tony Spaghetti and four or five of his friends while out joy riding had seen you showing some interest in the opposition your medical studies would have come to a rapid conclusion. I wish to remind you that you do not expect to make your home there and you need not feel under any obligations to do any crusading. The present population seems to be pretty well satisfied with things as they are, otherwise they would change it. So why should you or any other live young fellow who wishes to remain alive mix up in it?

Maybe I am prejudiced along the line of politics and possibly I should take more interest in the affairs of state and nation. There was a time when I was a partizan and argued volubly, loudly, and as I supposed convincingly for the advancement of my party. It was a question of principle and I waxed virtuously eloquent when discussing the full dinner pail, free silver and imperialism. I supported the choice of my party with blind zeal and if an occasional bootlegger or horse thief succeeded in getting on the ticket that was his good luck. My loyalty did not permit doing any scratching of the ballot. We prided ourselves on voting her straight. As age crept on I was able to evaluate the situation a bit more sanely, and as one party platform became the platform of the opposition a few years later and all issues were exploited for political purposes, I gradually became luke warm and suspicious. Today I refuse to become hot and bothered over any one's candidacy and I also refuse to be impressed by any politician's patriotic protests.

I do not mean you should not interest yourself in the welfare of your city nor take part in civic improvement. I do mean that there is no logic in a doctor making a lot of enemies by entering into political rings and endorsing the fight of ward politicians. I have known many doctors who have felt the urge to go into politics and have even been elected or appointed to political jobs. Usually one term was sufficient and they were glad to get back home and attempt to get their practice back. The latter is a pretty hard thing to do as nearly all have found out. Somehow

a tight-laced republican is suspicious of the mentality of a doctor or of any man who enthusiastically endorses the policies of the other party. By the same token the good old true blue democrat is also reluctant to place the lives of the members of his family in the keeping of an addle pated republican. This is especially true in the small town where a man's politics, religion, and indiscretions are known to every resident. I do not mean you are not to ally yourself with the party of your choice and vote as your conscience dictates. I do advise, however, that you avoid radical activity or membership on city councils, school boards, etc. All you can hope to make is a number of enemies and an equal number of disgruntled friends. Nearly every village and small town school board has its annual clash over the employment of teachers and wages to be paid, and the doctor on the school board comes in for his share of censure. This is also true in country school districts and many a bitter conflict is raged over the salary to be paid to the good looking young applicant, the number of boxes of chalk to be purchased, or whether the new building with the artistic crescent at each end should face the school house or the clump of plum bushes.

So much for politics. Should you as a crusader in your chosen work wish some special legislation put through, club in together with your colleagues and hire a competent lobbyist who knows the language. Don't become too inquisitive as to how he puts it over.

We are glad that your year's work is so near over and trust that you will make your grades. I am inclined to think your teachers and professors have a pretty good line up on you fellows by this time and are not going to be influenced very much by the frenzied application to work that you exhibit the last week or two of the semester.

We are having our usual spring dust storms and most of our loose soil has long since gone north into Nebraska, but thank the Lord we have gotten an equal amount from Oklahoma so we can consider it the usual 50-50 break. It may interest you to know the fish are biting on the Pawnee.

Love,

DAD.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Pulmonary tuberculosis of the adult type is rare in children of school age. Though uncommon, the disease when it attacks children is serious. Our knowledge of the course of adult type tuberculosis in the child has been deficient because of the scarcity of published data. Therefore, a review of the cases of pulmonary tuberculosis of the adult type in children and adolescents who have been cared for since 1910 at the State Sanatorium at Westfield, Massachusetts, is particularly welcome. Extracts of the report follow.

Clinical Pulmonary Tuberculosis In Children

The 631 cases of adult type pulmonary tuberculosis among children and adolescents (under 18 years of age) treated at the state sanatorium since 1910 are divided into three groups.

1: In the first group are 200 cases admitted from March 1, 1910, to March 1, 1920. No roentgen-ray apparatus was available during this period. The diagnosis was established by the presence of tubercle bacilli in the sputum.

2: The second group comprises 195 cases admitted from March 1, 1920, to March 1, 1927. The diagnosis was made on the roentgen-ray findings, with or without positive sputum. All in this group reacted to the tuberculin test.

3: In the third group are 126 cases admitted from 1929 to 1930. The diagnosis was established as in the previous group. In all groups only patients under eighteen years of age are included.

SALIENT FEATURES

About 70 per cent of the 395 cases embraced in groups (1) and (2) were girls. The incidence according to age was about the same for both sexes. It was only 18 per cent for children 12 years of age or younger, which confirms the common experience that pulmonary tuberculosis is not a frequent disease in children before their teens.

Almost one-half gave history of contact and the author comments that while the

search for tuberculosis among contacts will yield greatest results we should realize that a large number of cases have no known contact and that, therefore, every practical method of case finding should be used.

The mode of onset is almost impossible to determine, in fact the disease in a large percentage of cases progresses before any symptoms are noted. Cough (64 per cent) was the most frequent symptom, and weakness (14 per cent) was next.

Study of the stage of the disease on admission showed a gratifying increase as time progressed, in the percentage of minimal cases. Only 9 per cent of boys and 5 per cent of girls were minimal cases in the first group, while in the third group the ratio was 38 per cent for boys and 28 per cent for girls.

The low percentage of minimal cases in the first group is due to the fact that only positive-sputum cases were included in that group. When the statewide school clinic plan was begun (1924) the percentage of minimal cases increased markedly.

PROGNOSIS IS SERIOUS

The prognosis of adult type tuberculosis in children based on the experience of the groups studied is gloomy and the prospects of bettering it are discouraging. Of 200 cases of the first group (1910 to 1920) 158 are known to have died of pulmonary tuberculosis. It should be remembered that this group constituted an unfavorable series since all had positive sputum and 144 of the 200 were classified as advanced on admission.

In the 1920 to 1927 series results were somewhat better because diagnosis aided by the x-ray and tuberculin test was more precise, more rest treatment was given and artificial pneumothorax was used in five cases. Of the 195 cases of this group 125 had positive sputum on admission, 112 were advanced cases, 52 had cavities and 133 had bi-lateral involvement. One would not expect a good result from such a group. At the time of the study, 1932, 133 (68 per cent) were known to be dead. Of the 22 minimal cases none died in the sanatorium but 9 have died since.

TREATMENT

Patients of the 1910-1920 group were

not given bed rest treatment unless there was fever or other symptoms. Gradually, however, rest treatment was extended and by 1927, at least one year of bed treatment was given to all pulmonary cases. While it is too early to give a detailed composite report of the later group it can be said that in the minimal cases the results have been very good—at least temporarily. In a considerable number there has been complete clearing as shown by *x-ray* and the patients are clinically well. Of 49 moderately advanced cases (admitted from June, 1927, to June, 1930) 11 died in the sanatorium and of 62 advanced cases 27 died. Apparently prolonged bed rest treatment has been very efficient in many minimal cases and in a few of the moderately advanced though the mortality of advanced cases remains very high.

Pneumothorax has been in use for the past two years. This offers hope of better results but unfortunately this treatment often cannot be used on account of bilateral involvement and adhesions.

In the face of the generally discouraging situation what can be done? The logical procedure is to find tuberculosis while it is early and curable. Clinics should be more widely conducted in the schools with the routine use of the tuberculin test and *x-ray*. Special emphasis should be placed on the examination of all children known to have been exposed to the disease. The public should be educated to the necessity of prompt treatment for every child in whom a diagnosis of pulmonary tuberculosis has been established.

Certain Aspects of Pulmonary Tuberculosis in Children, Roy Morgan, Am. Rev. of Tuberc., May, 1934.

The records of Negro children in a Connecticut tuberculosis sanatorium for white and colored children were studied. While the data submitted do not lend themselves to exact comparison with those reported in the article abstracted above, the general observations are in close accord, and also bring into sharp relief certain characteristics of tuberculosis in Negro children. The article deals with all forms of tuberculosis but only brief extracts of the comments on pulmonary tu-

berculosis of the adult type are here offered.

Clinical Tuberculosis In Negro Children

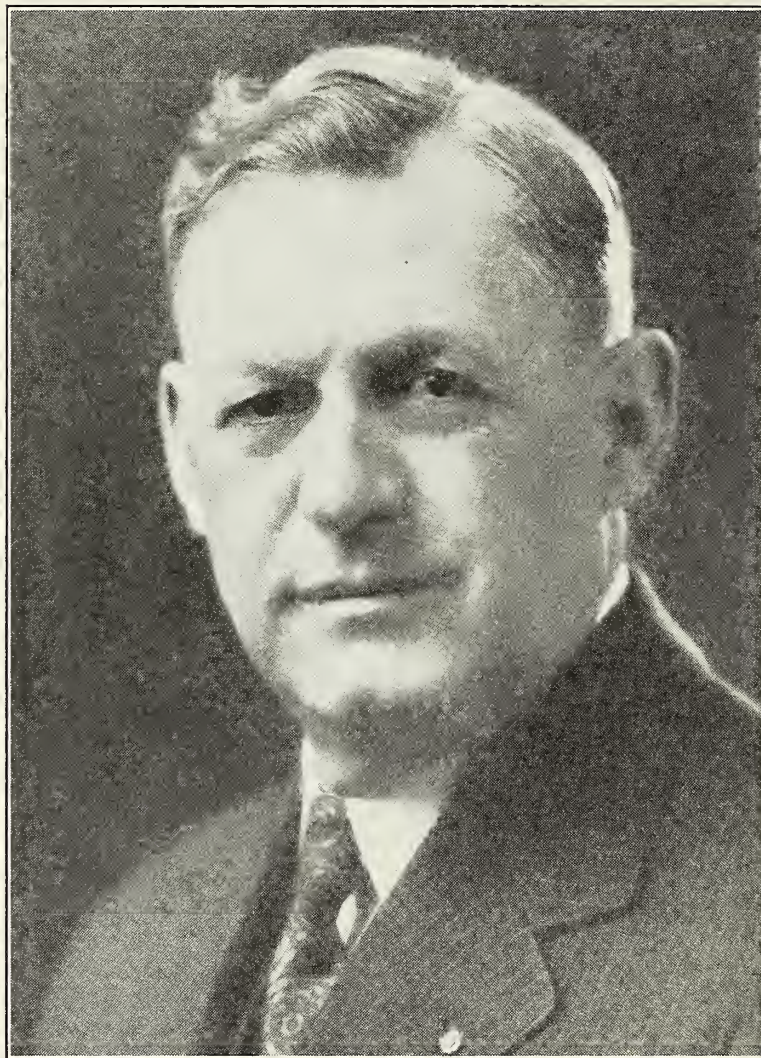
The ratio of Negro to white children admitted to the sanatorium is much higher than the ratio of white and Negro children in the general population of the state. There has been one death for about every 25 white children and four deaths for every 25 Negro children admitted.

Negro children with adult type pulmonary tuberculosis of any greater extent than minimal almost invariably failed to recover. No Negro child who ever had positive sputum recovered. The average age of Negro children with adult type pulmonary tuberculosis was 11 years. (For children of the Massachusetts study, most of whom were white, the comparable figure is 14 years.) The average length of illness of those who died was 8 months, whereas white children with similar pathological conditions survived on the average about one year and 7 months.

"The Negro child," says the author, "by the violence of his reaction to primary tuberculosis infection, by developing serious tuberculosis disease at an earlier age, by the frequency of associated tuberculous lesions or complications, and by earlier surrender to lethal disease, depicts a characteristic picture that is more peculiar to the majority of colored children than to children of the considerably more immunized white race."

Negro children undoubtedly have less resistance to tuberculosis than white children but the study yielded no certain evidence as to what is responsible for such lower resistance. The findings, however, indicate that the lower resistance of Negro children is not due to a lack of childhood infection, an opinion which is held by some. " * * * we might conjecture that whereas first infection with tubercle bacilli in the white child modifies his resistance to future infections, similar immunological reactions do not occur in all colored children, even though they may develop a state of allergy in so far as positive response to tuberculin is concerned."

Tuberculosis in Negro Children, Cole B. Gibson, Am. Rev. of Tuberc., April, 1934.



JOHN FRANKLIN HASSIG, M. D., KANSAS CITY
President-Elect Kansas Medical Society, 1934

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LIST OF OFFICERS—President, W. F. Bowen, M.D., Topeka; Vice President, H. L. Chambers, M.D., Lawrence; Secretary, J. F. Hassig, Kansas City; Treasurer, Geo. M. Gray, Kansas City.

COUNCILORS—First District, R. T. Nichols, Hiawatha; Second District, L. F. Barney, Kansas City; Third District, E. C. Duncan, Fredonia; Fourth District, O. P. Davis, Topeka; Fifth District, J. T. Axtell, Newton; Sixth District, H. N. Tihen, Wichita; Seventh District, C. C. Stillman, Morganville; Eighth District, Alfred O'Donnell, Ellsworth; Ninth District, H. O. Hardesty, Jennings; Tenth District, C. D. Blake, Hays; Eleventh District, C. H. Ewing, Larned; Twelfth District, N. E. Melencamp, Dodge City.

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EDITORIAL

THE SEVENTY-SIXTH ANNUAL MEETING

The highest registration of any meeting ever held by the Kansas Medical Society attests the success of the Seventy-Sixth Annual Meeting at Wichita. The total registration of members and guests was 589, 69 more than the previous high number registered at the 1932 meeting in Lawrence, but this number included registrations of medical students. The next high registration was at the 1930 meeting in Topeka, a total of 511. The 1933 figure represents an attendance of approximately 45 per cent of the members based upon the 1933 paid membership of the society.

The program as outlined by the Sedg-

wick County Medical Society and given by 13 guest speakers was highly satisfactory to the membership. The guest speakers were introduced by members of the state society. All of the speakers were physicians of national and international reputations, and their discussions were attended with much enthusiasm. The luncheon sessions were also well attended.

As usual, the two meetings of the House of Delegates required much time. The first meeting was held on the afternoon of May 9, and the second the morning of May 11. The principal questions discussed at the first meeting were an increase in dues and the employment of a full-time secretary. The dues were increased from seven to ten dollars, but an amendment was introduced to be considered at the 1935 meeting that when the total amount of the defense fund is in excess of \$10,000 that part of the dues shall be remitted until the defense fund falls to \$5,000. A motion was also adopted to provide for a temporary loan of \$4,000 from the defense fund to the general fund, during the period until the next meeting.

Two amendments to the constitution offered at the meeting in Lawrence, were adopted. One provides that no member of the Council shall "serve for more than two consecutive terms of office of three years each"; the other that Councilors shall be elected "from each Councilor District by the delegates from that district at the annual meeting each year. . . ."

The cancer survey made by F. L. Rector, M.D., Field Representative of the American Society for the Control of Cancer, was received but was held over for consideration until the 1935 meeting. However, authority was given by the House of Delegates to increase the membership of the Cancer Committee to nine

members, and the report to be published in the Journal.

The president was authorized to appoint a committee of five to edit the constitution and by-laws and report at the 1935 meeting.

The annual banquet was held at the Hotel Lassen with approximately 400 members and guests in attendance. Following the dinner, the guest speakers were introduced by President Bowen, as well as officers of the state society, and of the Sedgwick County Medical Society and Auxiliary. Dr. A. I. Folsom on behalf of the guest speakers responded with a delightfully entertaining talk. Following the dinner was a floor show, then bridge and dancing.

Officers elected included: J. F. Hassig, Kansas City, president-elect; H. L. Snyder, Winfield, vice president; George M. Gray, Kansas City, treasurer (reelected); and H. L. Chambers, Lawrence, constitutional secretary. Doctor Bowen was named as delegate to the American Medical Association. E. C. Duncan, Fredonia; H. N. Tihen, Wichita; C. D. Blake, Hays, and N. E. Melencamp, Dodge City, were elected as Councilors of the third, sixth, tenth and twelfth districts, respectively. Doctors Duncan and Tihen had previously served as members of the Council, while Doctors Blake and Melencamp were named to succeed Doctors Parker of Hill City and Fee of Meade respectively.

Officers of the Auxiliary report the most successful meeting in its history, as well as the largest attendance. Mrs. W. G. Emery, Hiawatha, is president. Officers elected included: Mrs. M. O. Nyberg, Wichita, president-elect; Mrs. J. Theron Hunter, Topeka, first vice president; Mrs. Clyde D. Blake, Hays, second vice president; Mrs. Paul E. Conrad, Hiawatha, recording secretary; Mrs.

Earl F. Clark, Belle Plaine, treasurer, and Mrs. L. B. Gloyne, Kansas City, publicity chairman.

Of especial interest was the scientific exhibit by members of the society. Large numbers of lay persons were in almost constant attendance, and appeared very much interested in the presentation of facts concerning scientific medicine.

The members of the Sedgwick County Medical Society were at all times at the service of the visiting members. No detail of social or scientific entertainment was overlooked.

The proceedings of the House of Delegates and report of the Council meetings will appear in this and succeeding numbers of the JOURNAL.

The Seventy-Seventh Annual Meeting will be held in Salina, on May 8, 9, and 10, 1935.

THE PRESIDENT-ELECT

Dr. J. F. Hassig, President-Elect of the Kansas Medical Society was born in Galena, Illinois; came to Kansas with his parents in 1881, and located in Brown County. He graduated in medicine from the University of Kansas School of Medicine (College of Physicians and Surgeons, Kansas City, Kansas), in 1899, and interned in St. Margaret's Hospital, 1899-1900.

Dr. Hassig has taken a very prominent part in the activities of both the Wyandotte County and Kansas Medical Societies. He served as Secretary of the Wyandotte County Medical Society for two years, 1914-15 and was its President in 1916. He has served continuously as Secretary of the Kansas Medical Society from 1917 to the present time. He also was one of the delegates to the American Medical Association meetings from 1927 to 1933, inclusive. In addition, he has been active in civic affairs and

has served two terms of two years each as city health officer and police surgeon.

Dr. Hassig had one and one-half years service during the World War as Captain in the Medical Corps. For twelve months he was stationed at Base Hospital Number 60, American Expeditionary Forces.

For years he has been a prominent surgeon in Kansas City and at the present time is attending surgeon to St. Margaret's Hospital; active surgeon, Bethany Hospital, and surgeon, Providence Hospital, all in Kansas City, Kansas.

Dr. Hassig is a Fellow of both the American Medical Association and of the American College of Surgeons; member of the Kansas City Academy of Medicine, and in 1931 was President of the Kansas City Southwest Clinical Society. At the present time, he is a member of and President of the Kansas Board of Medical Registration and Examination.

In naming Dr. Hassig as president-elect, by unanimous vote, recognition was given to his years of faithful service to the society. He is well qualified by experience and training to serve as President of the Kansas Medical Society in 1935.

PLAN FOR FULL-TIME SECRETARY ADOPTED

The House of Delegates of the Kansas Medical Society at its first meeting on the afternoon of May 9, 1934, created the office of full-time secretary. No votes were cast against the motion, which follows: "The House of Delegates hereby creates the office of full-time secretary for our state society, the secretary to be located in the central state society office in Topeka." The secretary so elected will also be the managing editor of the JOURNAL.

A second motion provided for the method of naming the secretary, as follows: "The House of Delegates, having declared itself in favor of a full-time executive secretary for the state society hereby instructs Doctors Tihen and Nesselrode to select three additional names for the formation of the executive secretary committee; the committee of five to select and hire a full-time secretary for the state society; to install him in suitable office space with adequate stenographic help, and to aid and direct him and his activities until the next annual state meeting. The House of Delegates further instructs the officers of the society and the Council to appropriate, as needed, the necessary funds to carry out these plans and activities until the next annual state meeting."

At the meeting on the morning of May 11, permission was granted to Doctors Tihen and Nesselrode to appoint five additional members instead of the three originally approved in the first motion. Doctor Tihen then announced the following members: Doctors W. F. Bernstorff, Pratt; W. M. Mills, Topeka; H. L. Snyder, Winfield; L. D. Johnson, Chanute, and N. E. Melencamp, Dodge City.

The committee held a short meeting on May 11, and a second meeting in Emporia, on June 3. It was stated by Dr. Tihen that probably a period of three to four months would be required to select a secretary and also to outline the work of such official.

The decision to employ a full-time executive secretary was made by the House of Delegates representing all of the component county and district societies. It is the wish of the majority membership and therefore deserves the whole-hearted support of every member of the society.

EDITORIAL COMMENT

Forty-two states reported 1,615 cases of undulant fever in 1933.

The next meeting of the Board of Medical Registration and Examination will be held in Topeka, June 19-20, 1934.

Dr. William H. Welch, "Dean of American Medicine", died at his home in Baltimore, Maryland, April 30, at the age of 84 years.

Medical licensing boards in 1933 licensed in the United States, 7,087 physicians; 5,145 by examination and 1,942 by reciprocity.

The thirteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held in Philadelphia at the Bellevue Stratford, September 10, 11, 12, 13, 1934.

The Seventh Annual Graduate Fortnight of the New York Academy of Medicine will be devoted to a consideration of gastrointestinal diseases. It will be held October 22 to November 2, 1934.

The total of marriages reported in the state for the first four months of 1934 is 1,278 in excess of the number for the same period of 1933. Deaths have decreased 857 for the same period.

A special grant has been made by the Commonwealth Fund for Dr. Charles F. McKhann's work in the Department of Pediatrics of the Harvard Medical School on the use of placental extract as a control measure for measles and possibly for other virus diseases.

Two hundred and forty-four deaths have been reported in the state in the past three years from accidental burns, the accidents classified as originating in the home. More than 30 per cent of the fatalities were the result of using gasoline or kerosene to start fires.

Of the 1,543 students tested with tuber-

culin by the von Pirquet skin test at Iowa State College, 90 per cent of the men and 83 per cent of the women gave negative reactions. Of the 178 who gave a positive reaction, 70 per cent were essentially negative by x-ray examination. (*Journal of the Iowa State Medical Society*).

The Council on Pharmacy and Chemistry of the American Medical Association, at its annual meeting went on record as being opposed to the use of bismuth compounds alone in the treatment of syphilis. It was the general opinion that until more definite evidence is available the Council should disallow all claims of particular penetration into the central nervous system of bismuth compounds.

The Gynceean Hospital Institute of Gynecologic Research of the University of Pennsylvania, is conducting an intensive study of families into which congenitally malformed individuals have been born. Special interest centers in families in which malformations have appeared in two or more children. Physicians having knowledge of such families are urged to communicate with Douglas P. Murphy, M.D., Gynceean Hospital Institute, University of Pennsylvania, Philadelphia.

Lester Tilton, trading as Tilton Laboratories and Tilton Laboratories Research (Cancer) Treatment, Clinton, Iowa, after being found guilty by a jury in a United States Federal Court at Davenport, Iowa, was fined on November 27 the maximum penalty for a first offense under the Federal Food and Drugs Act, \$200 on each of five counts, totaling \$1,000 for selling preparations falsely and fraudulently recommended for the treatment of numerous diseases, according to Dr. P. W. Spickard, Medical Officer, Federal Food and Drug Administration. Tilton, once a carpenter and later a locomotive fireman, manufactured the preparation at his home in Clinton, Iowa. He admitted he never studied medicine and he was not licensed to practice medicine in any state in the union.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

The Kidneys and Nitrogenous Waste Products

Many physicians depend altogether upon the laboratory for the diagnosis of nephritis; as a result, many early cases are overlooked. It is well known the urine shows very little change in many cases and the blood no changes until there has been considerable damage to the kidneys and body tissues.

Albumin and casts in the urine still remain the most important, constant and classical signs of nephritis; although these two tell us very little of the extent or seriousness of the condition they demonstrate a nephritis is present. In chronic interstitial nephritis the quantity of albumin is so small it is often overlooked; in parenchymatous nephritis the albumin is greatly increased often going as high as five per cent. Urine will solidify when boiled if it contains two per cent albumin.

An important diagnostic point to remember in nephritis is the failure of the kidneys to excrete solids, mainly chlorides and nitrogenous waste products. Sodium chloride retention is usually indicative of parenchymatous nephritis.

It must be appreciated that blood chemical changes do not take place until rather definite kidney damage has occurred. Early and mild nephritis does not cause a retention of nitrogenous waste products; thus these tests do not aid in making an early diagnosis. The functional tests, such as phenolsulphonphthalein do not give evidence of early pathology; further, these tests at times have fallacies which may be misleading such as the normal excretion in acute nephritis.

Nitrogen bearing constituents of the blood are the proteins (albumin and protein) and the various nonprotein nitrogen substances (unutilized food derivatives, waste metabolic products) mainly urea, uric acid, creatinin, ammonia and amino acids. The term nonprotein nitrogen includes all the nitrogen left in the blood after all of the proteins have been removed.

The normal NPN is somewhat variable because it is influenced by numerous factors; however we know that 25 to 30 mgm. per cent is the high normal. The total NPN is divided in the normal person about as follows: Urea nitrogen 12 to 15 mgm. per cent; uric acid one to four mgm. per cent; creatinine one to two mgm. per cent, and the balance composed of several waste nitrogenous products. Through an error of interpretation several years ago most physicians thought in terms of urea instead of urea nitrogen. Urea is obtained by multiplying the urea nitrogen by the factor 2.14.

Technically, the test for total NPN is just as simple and probably more so than the urea nitrogen test, but the urea nitrogen determination is of greater value for it is the first of the nitrogenous waste products to be increased. For this reason, it is my opinion it should be the routine test where only one test is made.

Obstructions in the urinary tract where the urine is decreased will cause an elevated urea nitrogen, such as found in prostatic obstruction and stricture of the urethra or both ureters. However there will be no increase in the urea nitrogen in a condition that affects only one kidney, provided the other compensates. Other causes of elevated blood urea nitrogen are: Acute and subacute glomerular nephritis; chronic diffuse nephritis; congenital polycystic kidneys; pyelonephritis; pyonephritis; hypertensive cardiovascular-renal disease; certain heavy metal poisons (mercury, arsenic, lead), and dehydration such as is common in severe diarrhea, severe vomiting, and gastric and duodenal ulcers.

Surgically, the most common use of the urea nitrogen is in prostatic obstruction. A urea nitrogen of 20 mgm. per cent or below shows the ability of the kidneys to excrete solids and indicates a safe surgical risk. Creatinine is used almost altogether as a prognostic procedure. Any creatinine above two mgm. per cent is pathological and excluding the nephritis of acute poisons, a creatinine above five mgm. per cent is indicative of fatal results. Uric acid is increased in many conditions such as starvation, eczema, the anemias and various poisons; its

routine place is in the diagnosis of gout where it is increased above five mgm. per cent.

After all, blood chemistry, like most other laboratory work is just one link in the chain of evidence that indicates a certain pathological process and has a definite place. It must not be used to the exclusion of other procedures and a thorough physical examination.

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RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

MYASTHENIA GRAVIS

Doctor Boothby who has previously reported some studies in the treatment of myasthenia gravis, here reports the effect of the treatment with glycine and ephedrine of 12 patients with this disease. Of these, 10 have shown definite improvement and four, marked improvement. Two did not respond to treatment except that the progress of the disease was apparently arrested and one of the two died from causes not directly attributable to the myasthenic syndrome. It is his opinion that the careful use of either ephedrine or glycine, and more often both, permits most patients with this disease to improve sufficiently to permit them to return to work. It is a relatively rare disease and yet it is the author's opinion that it is much more frequent than is generally supposed.

Myasthenia Gravis. The Effect of Treatment with Glycine and Ephedrine, Third Report. Boothby, Walter M. Archives of Internal Medicine. 63:34-45. January 1934.

LIVER TREATMENT OF PALLAGRA

Many observers have noticed the similarity of the symptoms of pellagra and pernicious anemia of the Addisonian type. Liver extract had been shown to prevent and cure black tongue in dogs, a disease analogous to pellagra in the human. Of 37 patients studied 23 were first given a basic diet containing all known vitamins but G (B 2). They failed to improve for while the skin lesions disappeared during hospitalization they returned upon exposure to sunlight. The other symptoms of the disease remained also. Ten patients were given 90 cc. aqueous extract of liver

daily; a striking clinical improvement began between the third and fifth days and continued until recovery. One patient's diet was supplemented by three vials of powdered liver extract daily (each vial contained about 100 gm. fresh liver). Improvement was seen on the fourth day; within five weeks the patient was discharged as well. Four cases treated with Liver Extract 343 in 5 cc. doses intramuscularly failed to improve; they promptly recovered when given 90 cc. of aqueous liver extract daily by mouth. The other fourteen patients were given house diets as controls. Three were very advanced and died; the remaining 11 recovered, their clinical course being about the same as that of the group receiving the standard basic diet and aqueous liver extract by mouth.

The Treatment of Pellagra with Certain Preparations of Liver. Ruffin, Julian M., and Smith, David T. American Journal of Medical Sciences 187:512-521, April, 1934.

SPECIFIC TREATMENT OF SEPTIC INFECTIONS

There has been a relative neglect of specific bacteriologic diagnosis in some local surgical conditions, and the author points out the importance of specific diagnosis in the more common inflammatory exudates and wound infections and of recognizing the common parasites. Better treatment could be insured if it were known what specific bacteria were being treated. This is especially true when an antiserum is to be given. Bacteriophages are recommended in the treatment of septic infections, to be used with serum and other therapeutic agents. Four cases are presented to illustrate how the specific treatment of infection is attempted. The appropriate application of antistreptococcus serum or of bacteriophages against the staphylococcus or the colon bacillus requires the intimate collaboration of the clinician and laboratory worker.

MacNeal, Ward J. Specific Treatment of Septic Infections, Particularly with Aid of Bacteriophages. Am. J. Med. Sci. 187:623-634, (May) 1934.

BROMIDE INTOXICATION

Bromide intoxication often gives rise to some puzzling diagnostic problems in general hospital service. The author quotes the various pharmacological actions of bromides: depressing the entire central

nervous system (except the medulla), depressing psychic functions, lowering reflex excitability, depressing muscle tone and circulation. Disorders of digestion, emaciation, somnolence, and defective co-ordination are some of the symptoms of bromide intoxication. An elevation of temperature with increased pulse rate, skin eruptions, speech difficulty, coarse tremors and other neurological anomalies may be present; impairment of mental faculties or maniacal excitement may result from large doses of bromides. The toxicity is due to the bromide ion replacing the chloride ion in the blood; symptoms begin to occur when 25 per cent to 30 per cent of the chloride ion is replaced; the replacement of more than 40 per cent is fatal.

Ten cases of bromide intoxication are reported. The author warns against prescribing bromides for any length of time, especially if the patient's circulatory or excretory function is impaired. He states that in patients presenting profound stupor, acute delirium or obscure neurological symptoms, the presence or absence of bromide intoxication should be determined by testing the urine and blood.

Sharpe, J. C. Bromide Intoxication. *Journal of Am. Med. Assn.* 102:1462-1465, May 5, 1934.

GASTRIC DISTURBANCES IN SYPHILITIC INFECTION

Gastric symptoms may occur as the result of syphilitic lesions of the stomach itself or may be produced secondarily by a generalized systemic infection or by syphilitic involvement of one or many organs. Sometimes gastric disturbances are among the diagnostic symptoms suggesting syphilis; they are seen both in early and late syphilis but are far more prominent in the tertiary stage. Infection of the nervous system and of the liver also cause gastric symptoms; nausea, vomiting, pain, eructation, distension, etc., are most commonly observed. The gastric crises occurring in tabes are believed to be due to changes in both the autonomic and sympathetic nervous system. The fact that gastric symptoms disappear as a result of antisiphilitic treatment is evidence that they are a result of syphilitic infection.

Freidenwald, Julius. The Gastric Disturbances Secondary to Syphilitic Infection. *Am. J. Syph. & Neurology* 18:163-189, (April) 1934.

PROCEEDINGS OF THE SEVENTY-SIXTH ANNUAL MEETING

Of the Kansas Medical Society, Held at Wichita, Kansas, Allis Hotel, Tuesday, Wednesday, and Thursday, May 9, 10, and 11, 1934.

The House of Delegates met in the Ingalls Room, Allis Hotel, on May 9 at 4:15 p.m. with the President, Dr. W. F. Bowen, presiding.

On motion by Dr. C. C. Nesselrode, regularly seconded and carried, the minutes of the 1933 meeting were not read, having previously been published in the JOURNAL.

SECRETARY'S REPORT

To the House of Delegates of the Kansas Medical Society:

FINANCIAL REPORT

Balance on hand May 1, 1933:		
Medical Defense	\$11,724.89	
General Fund	5,954.43	
		\$17,679.32
Cash received from all sources for the year ending May 1, 1934:		
Dues from members	\$ 9,667.00	
Interest reported by Treasurer	351.25	
		\$10,018.25
		\$27,697.57
Expended for the year ending May 1, 1934:		
Medical Defense	\$ 2,093.47	
Gov. tax on checks reported by treasurer .....	.24	
General Fund	5,755.70	
Gov. tax on checks reported by treasurer .....	.66	
		\$ 7,850.07
Balance on hand May 1, 1934		\$19,847.50
Standing of funds May 1, 1934:		
Medical Defense	\$12,393.18	
General Fund	7,454.32	
		\$19,847.50

Our financial report is slightly more encouraging than that of last year at this time inasmuch as it shows an increase of \$2,169.18 in the total of the two funds.

This increase is due largely to discontinuance in March of last year of "Folks", our lay publication. However, there is a slight increase in the membership over that of last year. We have a membership of 1,171 to date. While at the end of 1933 we had a paid membership of 1,300 even which is the smallest membership we have had since the World War. This is also true of practically every State Medical Society and is all

due to the economic conditions that have confronted us for the past four years and a number of State Societies are considering a reduction in the annual dues this year—among them our neighboring state, Missouri.

We have had numerous letters from doctors all over the state complaining of the amount of annual dues. One doctor wrote in and stated that he had been a member for 30 years, but to his deep regret, he would have to discontinue his membership in the State Society.

Another letter states that at their recent county meeting there was considerable discussion about the gradual increase in the annual dues of the Kansas Medical Society and also said there are men who refuse to come to our meetings because they think the dues are too high; and concluded by saying they sincerely hoped that by the next year there would be some change in the expense incurred in being a member of the State Society.

One county society lost eleven members last year—none by death. Another county society became inactive because they claimed the dues are too high.

Another doctor said this is the first time in 15 years for him to miss a meeting. He said that he had gained much knowledge and derived great enjoyment from the state meetings but this year he was unable to make the grade. This situation is probably true concerning the other 222 who have dropped out of the society during the past four years. They couldn't make the grade.

During the past four years our profession has faced conditions more difficult than has been the case in all previous history. This is true of every business enterprise for many established corporations after years of successful operation have passed from prosperity to bankruptcy.

However, the Kansas Medical Society need have no fear of bankruptcy as we have sustained a loss of only about 14 per cent of our members and conditions seem to be improving in the first year of what is commonly known as "the new deal."

I trust that this House of Delegates

will formulate some policy or plan that will prevent the further defection of any members and be of great benefit to the Society at large. And to such measures as the House of Delegates may adopt I pledge my loyal support.

Respectfully submitted,

J. F. HASSIG, M.D., Secretary.

Dr. J. D. Colt, Sr., made a motion which was regularly seconded and carried that the report be adopted and placed on file.

On motion by Dr. L. D. Johnson, regularly seconded and carried the Treasurer's report was not read but handed to the Secretary for publication in the minutes.

TREASURER'S REPORT

To the House of Delegates of the Kansas Medical Society:

Standing of funds May 1, 1933:

Medical Defense	\$11,724.89	
General Fund	5,954.43	
		\$17,679.32

Cash received during the year from

Secretary	\$ 9,667.00	
Interest on Liberty Bonds	351.25	
		\$10,018.25

\$27,697.57

Expended for year ending May 1, 1934:

Medical Defense	\$ 2,093.47	
Gov. tax on checks .....	.24	
General Fund	5,755.70	
Gov. tax on checks .....	.66	
		\$ 7,850.07

Balance on hand May 1, 1934.....\$19,857.50

Standing of funds May 1, 1934:

Medical Defense	\$12,393.18	
General Fund	7,454.32	
		\$19,847.50

Invested in Bonds 10,644.55

Balance in bank\$ 9,202.95

Of the funds in my hands on May 1, 1934, \$10,655.55 represents investments in government bonds; \$6,000.00 of these bonds were purchased by Dr. Munn when he was treasurer of the society and have been carried at par. The \$5,000.00 of bonds that I purchased on March 29, 1932, cost the Society \$4,644.55 and on those you would have a premium today of \$355.45. The \$11,000.00 of government bonds now held by me as treasurer and registered in the name of Geo. M. Gray, Treasurer or his successor, have

a market value today of \$11,241.87, making a total profit to the Society of \$597.52 if sold now, and my advice is to sell these bonds and take this profit. The cash received should be invested in some high class bonds either municipal or government, government preferred if they can be purchased near par. These bonds are a part of the surplus in the Defense Fund.

The expenditure for the Defense Fund for the past year shows a marked increase amounting to \$2,093.71, this being \$509.89 in excess of last year's expenditure.

The expenditure for the General Fund for the past year shows \$5,755.70, an improvement over the preceding year owing to the elimination of the publication of "Folks". The expenditure of the JOURNAL amounted to \$2,800.00, this amount being made up as follows, editor's salary \$1,800.00, appropriation \$1,000.00. The expense of the Legislative Committee was \$49.76, an improvement over the preceding year of \$51.00. The secretary's expense has been practically the same and the expense of the mid-winter meeting of the Council has been about the same. The total amount expended in the General Fund was \$5,755.70 as compared with \$8,051.16 expended in 1932; a difference of \$2,294.80.

In conclusion, I want to call your attention to the fact that the treasurer's books have never been audited by a Committee from the House of Delegates since I became treasurer. However, there is hardly a possibility of error in this account as it is checked by the secretary and Dr. O. P. Davis as Chairman of the Defense Board and by our voucher system. All vouchers are numbered and show for what the expenditure was made and my balance as carried on my books must correspond with the amount shown by the bank, also the amount turned over by the secretary to me with such funds as have been received as interest on bonds. The society today is in a better position from a cash standpoint than at any time during the past five years.

The following vouchers of expenditures are herewith listed:

DEFENSE FUND

Date	Vch. No.	Name	Amount
May 27, 1933	182	O. P. Davis, M.D.....	\$ 75.00
July 11, 1933	183	J. D. M. Hamilton....	346.67
Aug. 3, 1933	184	O. P. Davis, M.D.....	80.00
Aug. 11, 1933	185	J. D. M. Hamilton....	77.05
Oct. 13, 1933	186	Am. Med. Ass'n.....	7.00
Nov. 6, 1933	187	O. P. Davis, M.D.....	75.00
Nov. 16, 1933	188	J. D. M. Hamilton....	290.00
Dec. 23, 1933	189	J. D. M. Hamilton....	621.99
Jan. 30, 1934	190	J. D. M. Hamilton....	159.60
Feb. 2, 1934	191	O. P. Davis, M.D.....	75.00
Feb. 6, 1934	192	J. D. M. Hamilton....	50.00
Apr. 2, 1934	193	J. D. M. Hamilton....	232.00
Apr. 2, 1934	194	J. A. McCall Print. Co.	3.50
			<hr/> \$2,093.47

GENERAL FUND

Date	Vch. No.	Name	Amount
May 5, 1933	379	Mrs. Ethel Evans....	\$ 8.80
May 5, 1933	380	Earle G. Brown, M.D. (Folks)	255.79
May 5, 1933	381	Earle G. Brown, M.D. (Journal)	1,800.00
May 5, 1933	382	Effie Gillispie	10.00
May 5, 1933	383	J. F. Hassig, M.D., Sec.	1,403.88
May 8, 1933	384	E. L. Cornell, M.D....	34.34
May 8, 1933	385	J. D. Colt, Sr., M.D....	17.30
June 12, 1933	386	P. C. Jeans, M.D.	45.00
Oct. 27, 1933	387	Earle G. Brown, Ed....	500.00
Nov. 6, 1933	388	Russell L. Haden, M.D. (Cleveland Clinic Foundation)	71.10
Nov. 25, 1933	389	E. C. Duncan, M.D....	35.40
Jan. 9, 1934	390	R. T. Nichols, M.D....	8.00
Jan. 9, 1934	391	L. F. Barney, M.D....	7.40
Jan. 9, 1934	392	E. C. Duncan, M.D....	10.00
Jan. 9, 1934	393	O. P. Davis, M.D.....	5.00
Jan. 9, 1934	394	H. N. Tihen, M.D.....	11.00
Jan. 9, 1934	395	C. C. Stillman, M.D....	13.00
Jan. 9, 1934	396	Alfred O'Donnell, M.D.	10.00
Jan. 9, 1934	397	H. O. Hardesty, M.D..	25.90
Jan. 9, 1934	398	I. B. Parker, M.D.....	25.00
Jan. 9, 1934	399	C. H. Ewing, M.D.....	25.95
Jan. 9, 1934	400	W. F. Fee, M.D.....	40.00
Jan. 9, 1934	401	Wm. F. Bowen, M.D....	5.00
Jan. 9, 1934	402	J. D. Colt, Sr.....	17.43
Jan. 9, 1934	403	Geo. M. Gray, M.D....	7.40
Jan. 9, 1934	404	J. F. Hassig, M.D....	717.17
Jan. 16, 1934	405	Am. Med. Ass'n	11.20
Feb. 2, 1934	406	E. C. Duncan, M.D....	14.36
Feb. 21, 1934	407	Earle G. Brown, Ed....	500.00
Feb. 22, 1934	408	Kan. Bankers' Ass'n..	10.00
Mar. 2, 1934	409	Evans Press	5.00
Mar. 9, 1934	410	Postal Telegraph	8.28
Apr. 14, 1934	411	Sedgwick Co. Med. Sc.	97.00
			<hr/> \$5,755.70

Respectfully submitted,
GEO. M. GRAY, M.D., Treasurer.

On motion by Dr. Fred McEwen, regularly seconded and carried, the Councilors' reports were not read, but handed to the secretary for publication in the minutes.

COUNCILORS' REPORTS

Second District: Your Councilor of the second district submits the following report:

There are nine counties in the second district—viz. Leavenworth, Wyandotte, Johnson, Douglas, Franklin, Miami, Coffey, Anderson, Linn, each of which has an organized county society.

During the past year he visited the Leavenworth, Franklin, Douglas, Anderson, Johnson and Wyandotte County Societies all of which showed real evidences of being alive, active and in real earnest. By mail, he requested of the secretaries of the other three county societies, Linn, Coffey, and Miami that he be given an opportunity to visit their societies, as is required annually by the by-laws of the Kansas Medical Society, but received no response. He is assuming that this failure was not intended as a personal slight but rather due to the inactivity of these county societies or to the negligence of their secretaries. If the latter it would indicate that these societies are not receiving the desired stimulus from their secretaries, upon whom so much of the activities of the societies depend.

A questionnaire was sent to each of the societies and each replied. From these questions the following information was obtained.

Each society meets monthly except Linn County which meets bi-monthly, and the Wyandotte County Society meets twice each month except June, July, and August. The Coffey County Society has no meetings.

Each society held the regular number of meetings last year, except Miami County had only four and Leavenworth County missed its January meeting, while Anderson County had two extra meetings and Douglas County one extra meeting.

The number of members in each society with the number of others desirable for membership is as follows:

Members	Other Desirables
Leavenworth	22
Wyandotte	125
Douglas	32
Franklin	29
Anderson	10
Coffey	2
	0
	0
	4 or 5
	*2
	†3
	6

Linn	9	0
Miami	9	‡11
Johnson	19	7 or 8

*Both women.

†All unable to pay.

‡Four belong to Franklin County; four others employed at state hospital and three not interested.

This shows there are about 30 doctors in the district who should belong to the Kansas Medical Society.

The average attendance at meetings with the total membership shows:

	Av. Attendance	Total
Leavenworth	12	22
Wyandotte	37	125
Douglas	21	32
Franklin	20	29
Anderson	9	10
Coffey	0	2
Linn	7	9
Miami	6	9
Johnson	10	19
Total		254

The average attendance at meetings during the past year compared with previous years was about the same except in Anderson and Wyandotte counties, where it was increased. Information in this regard as to Douglas County was not available at the time of making this report.

Interest manifested by the members in the activities of the societies remained unchanged except Anderson, Wyandotte and Douglas counties reported increasing interest.

Changes in total membership during the past year:

	Increase	Decrease
Leavenworth	0	*3
Wyandotte	8	0
Douglas	0	†2
Anderson	2	0
Coffey	0	0
Linn	0	0
Miami	0	0
Johnson	3	0
Total	13	‡5

*Two retired—one moved away.

†Two have not paid dues.

‡A gain of eight in the Second District.

None of the county societies reported any troubles in which the Councilor could be of service but Linn County complained of the osteopaths, chiropractors and one druggist prescribing.

Summary: This report reveals that Leavenworth, Wyandotte, Douglas, Franklin, Anderson, and Linn County Societies are in good condition with An-

derson, Wyandotte, and Douglas counties showing increasing interest.

Johnson County has an active society but could increase its value to organized medicine by increasing its membership.

The doctors of Miami County appear to be rather split up. They should get more together and have more meetings.

Coffey County should be rejuvenated.

With the experience gained during the past year, the Councilor of the second district hopes to be of greater service in the future to these societies.

Respectfully submitted

L. F. BARNEY, M.D.

Third District: While I have not visited each county society, we have discussed things through the medium of the Southeast Kansas Medical Society which is well attended and meets every three months.

All counties are organized with the exception of Chautauqua; the small number of physicians there, preferring to hold membership in the adjoining counties of Elk and Montgomery.

Much more interest is being shown in organized medicine in this district than ever before in my memory, and the "stand together" idea is strong.

E. C. DUNCAN, M.D.

Fourth District: The fourth district has but three unit societies: Geary, Lyon, and Shawnee County Societies. These societies, with the exception of the Geary County Society, derive their membership, in part, from adjacent counties where no county society exists. I submit items of information furnished by their respective secretaries relative to the condition and activities of the above three societies.

Geary County Society reorganized more than a year ago. Prior to that time physicians of the county held their membership in societies of adjacent counties. Perhaps that is still true of some of them. There are at this time four paid-up members, with no gain or loss since last year. There has been one regular meeting, with an attendance of seven. There have been no formal programs. One physician, not now a member, is reported as the only eligible.

Lyon County Society has 34 paid-up members, and has added four new members, by application, since last report.

No members have been lost. Ten regular meetings have been held and two social meetings. The average attendance has been 23. There have been three guest speakers on the programs, one clinical program and six programs with member speakers only. There are seven physicians eligible but not members. Lyon County maintains its well-established record of having a "Grade A" medical society.

Shawnee County Society has 136 paid-up members and three emeritus members from Shawnee County, derived as follows: Shawnee, 112; Jefferson, eight; Osage, seven; Wabaunsee, five; Pottawatomie, three; Jackson, 1. Two new members by application and two by transfer were added, all from Shawnee. In addition, five members were elected in the last quarter of 1933, but dues were not collected from them for that year. No members were lost by death, but two were lost by transfer and two by suspension for non-payment of dues.

There have been 12 meetings, 10 regular and two special. One of the special meetings was social and the other for business. The average attendance at the meetings was 67.6. The largest attendance was 134, at the annual meeting, December 4. On the programs there were six guest speakers and four member speakers. There are only two physicians in Shawnee County who are eligible but not members, and one of these is retired.

Shawnee County Society, with a staff of live officers, a large and alert membership and a high appreciation of what it is meant to do, steadily and smoothly moves forward.

O. P. DAVIS, M.D.

Fifth District: I have visited practically all of the county medical societies in my district and am glad to report that they are in a very satisfactory condition.

Membership in the societies and attendance at meetings has been very good. The custom of two or more societies meeting together several times during the year and in this way greater interest has been kept up and the meetings much enjoyed. Fraternally yours,

J. T. AXTELL, M.D.

KANSAS MEDICAL GOLFING ASSOCIATION

The Kansas Medical Golfing Association had its annual tournament and dinner at the Wichita Country Club on May 8, 1934. The Wichita fellows made of themselves wonderful and efficient hosts to the party. The day was ideal for golf; the course selected was a good one, dandelions interfering somewhat. The privileges of the Wichita Country Club were extended to the members for the day of play and a good time was had by all. The Golfing Association is growing. This year marked the banner year there having been 77 players taking part in the tournament and 21 new members were secured.

There was an award of 25 prizes, and a Loving Cup presented by the Sedgwick County Medical Society and the Wichita Chamber of Commerce, this cup to remain in the hands of the low gross player until the following year. Dr. E. S. Edgerton of Wichita won the cup this year. This cup is to be known as the Nordstrom Cup, in memory of Dr. L. O. Nordstrom who was so well known and loved by members of the Golfing Association in particular, due to his interest and activity in this Association.

The officers elected for the ensuing year: E. S. Edgerton, Wichita, president; A. A. McLaughlin, Greensburg, vice president, and Lerton V. Dawson, Ottawa, secretary-treasurer.

The dinner served in the club house the evening following play was all that could be expected. The prizes were awarded, business transacted and this was followed by a floor show which was provided by the local society.

This meeting of the Kansas Medical Golfing Association was in every way a success. The secretary knows that there are a great many physicians in the society who play golf but who have never attended these meetings. You are missing a real time. Fellowship, relaxation, acquaintance, pleasure, improvement of your game and many other things too good to mention, but if you are not a member of the Golfing Association, you owe it to yourself to join up and get in the game next year. It gives you one more day of

relaxation and pleasure in the year. Resolve now to attend next year and bring along an extra two dollars as joining fee; it will be worth while.

LERTON V. DAWSON, M.D., Sec'y.

—R—

FRANKLIN COUNTY MEDICAL SOCIETY PLAN FOR CARE OF INDIGENT

At the annual meeting of the secretaries of component societies which was held on the second day of the state meeting, much interest was shown in the plan used for the care of the indigent in Franklin County. Those wishing information in addition to that shown in the contract (which follows), should communicate with Dr. Lerton V. Dawson, Secretary, Ottawa, Kansas.

"We the County Commissioners of Franklin County hereby agree to employ the Franklin County Medical Society to furnish medical and surgical care to the pauper poor of Franklin County on the terms and conditions stated below.

"We the committee whose names appear below, being authorized to act in this capacity for the Franklin County Medical Society, agree to furnish medical and surgical care to the pauper poor of Franklin County on the terms and conditions stated below.

"It is understood that the Commissioner of Poor of Franklin County shall furnish to the secretary of The Franklin County Medical Society a list of recognized paupers who are entitled to county aid in case of sickness or emergencies; that this list be corrected by the Commissioner of Poor once each month and that the persons whose names appear on such list may be cared for by members of the Franklin County Medical Society without further authority than the names being on the list.

"In cases applying for medical or surgical care whose names do not appear on said list, authority to render such care at county expense must be had from the Commissioner of Poor or from the Chairman of the Board of County Commissioners. (This should be a written order.)

"No payments will be made for care unless these conditions are complied with; provided, however, that in cases of extreme emergency, bills for service may be rendered for consideration to the Board of County Commissioners.

"All service to the county paupers is to be rendered by the members of The Franklin County Medical Society on a fee basis as follows:

"The fee bill shall be in the main as nearly as possible one-half the average fee bill for the profession of the society as follows:

Office service	\$ 0.50
House call	1.00
Obstetrics, normal	12.50
Fractures (first dressing)	10.00

Subsequent care same as house call or office visit.

"All necessary emergency surgery, major or minor, at the hospitals or homes or offices \$12.50, subsequent care same as house or office calls. Mileage, either as health officer or county physician 25 cents per mile as figured one way from nearest member to the duty.

"Only such drugs and medicines as are immediately demanded shall be furnished by the attending physi-

cian; provision having been made for prescription service with all drug stores.

"As to public health. The Franklin County Medical Society will elect one of its members to appointment by the Board of County Commissioners, the physician so elected and appointed to serve as Health Officer at a salary of one dollar per day. He to appoint all physicians in the Franklin County Medical Society as deputy health officers, but he to be responsible for all reports and obligations of the office, postage to be furnished by the Board of County Commissioners.

"It is understood by both interests represented in this contract that in no case shall the total fee bill including the County Health Officer's pay, exceed three thousand three hundred and sixty-five dollars in any twelve month period; and it is further understood that sixty days notice by either interest may void this contract as to further enforcement."

—R—

THE PHYSICIAN'S LIBRARY

SURGICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 14, No. 1. (Philadelphia Number—February, 1934). 226 pages with 62 illustrations. Per Clinic Year (February, 1934, to December, 1934.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

This Philadelphia number contains an unusual amount of instructive material. Post operative pulmonary atelectasis is discussed thoroughly by Doctors E. L. Eliason and C. W. McLaughlin. The use of the tube pedicle flap for scar contractions is nicely illustrated in several cases presented by Dr. Charles F. Nassau. Doctors Chevalier Jackson and Chevalier L. Jackson have a clinic on laryngeal stenosis in children. Dr. Babcock reports a case of tuberculous pericarditis with enormous effusion treated by pericardotomy. He also discusses diffuse toxic goiter with his observations on routine surgical treatment.

Dr. Thomas A. Shallow has an instructive clinic on foreign bodies in the gastro-intestinal tract emphasizing the three important indications for surgical intervention (a) persistently lodged foreign body which is shown to be in the same position after repeated x-ray examinations (b) a foreign body which causes persistent abdominal pain (c) a foreign body lodged in the intestinal tract (in any location) which is associated with pain, tenderness and rigidity. Dr. Louis Clerf has a clinic also on foreign bodies in the gastro-intestinal tract. Dr. Hubley R. Owen gives a report on 40 cases of pilonidal cyst surgically treated.

Dr. William John Ryan has a nice discussion on diseases of the gallbladder.

There are also a number of other equally interesting and instructive cases given in this volume.—M.B.M.

THE BIOCHEMISTRY OF MEDICINE: By A. T. Cameron, M.A., D.Sc., F.R.S.C., and C. R. Gilmour, M.D., C.M., F.R.C.P., Professor of Biochemistry, and Professor of Medicine, respectively, University of Manitoba. Baltimore, William Wood & Co., 1933. \$6.00.

As the preface states this book "is designed both for the student of medicine receiving clinical instruction in the later years of his course, and for the physician who received no special instruction in the medical applications of biochemistry." The authors point out that with the large proportion of articles appearing in the literature devoted to biochemical studies of diseased conditions, the physician keeping abreast of the times must be acquainted with biochemistry.

The first chapter serves as a brief outline for the whole book and as an introduction to the concept of the human body as a physiological machine. The succeeding chapters take up in turn the metabolism of chief classes of ingested materials, as carbohydrates, fats, proteins, water, minerals, gases, vitamins. Minimum attention is devoted to the purely normal. Conservative and scholarly, the authors are nevertheless good editors of the mass of good and bad medical research and express conclusions in clear, terse language. The reader may be refreshed with their modest tone of elucidation in contrast to the many current authoritative texts which reek of an almost ecclesiastical flavor of pedagogy.—H.M.B.

MEDICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 17, Number 5. (New York Number—March, 1934.) Octavo of 324 pages with 32 illustrations. Per Clinic Year July, 1933, to May, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

The March number of the Medical Clinics, is an especially interesting edition. The first clinic by Dr. Harlow Brooks on three heart cases gives one an idea of how heart cases should be handled in order not to make invalids out of them. Another clinic by Dr. George M. Goodwin on the treatment of hyperthy-

roidism shows three cases; one with satisfactory results following an operation, another with very unsatisfactory results, and the third one treated by x-ray with good results. His primary intention is to show that one can not always guarantee the patient good results following operation. Dr. Alf S. Alving has a clinic on diet in chronic Bright's disease and shows that the patients seem to get along much better who rather than being restricted on proteins are fed as much as 80 grams of proteins and from 2500 to 3000 calories per day. He also shows it is not best to restrict salt. Doctors I. W. Held and A. Allen Goldbloom have an interesting article on perforated peptic ulcer giving the acute symptoms and differential diagnosis between perforated ulcer and all the other conditions which might simulate the symptoms of perforated ulcer. Doctors Robert F. Loeb and Dana W. Atchley show good results in Addison's disease by the feeding of salt. Dr. Margaret Stanley-Brown gives an excellent article on the treatment of extensive burns giving the emergency treatment that should be followed before a physician can be obtained for the relief of the patient and then gives the tannic acid treatment in detail.—C.K.S.

—B—

BIRTHS

Canton: Dr. and Mrs. Guy E. Finkle, April 10, 1934; a daughter, Mary Anne.

Goodland: Dr. and Mrs. Wendell A. Grosjean, February 22, 1934; a daughter, Jane Suzane.

Lawrence: Surgeon Joseph G. Schnebly (USN) and Mrs. Schnebly, April 16, 1934; a daughter, Martha Ann.

Neodesha: Dr. and Mrs. James H. Humphrey, April 5, 1934; a daughter, Evelyn Hurene.

Pittsburg: Dr. and Mrs. Floyd H. Rush, April 11, 1934; a daughter, Kathleen Marie.

Wichita: Dr. and Mrs. Harvey Hodson, April 16, 1934; a daughter, Corrine Janet.

COUNTY SOCIETY NEWS

BOURBON COUNTY MEDICAL SOCIETY

The Bourbon County Medical Society met in regular session at Fort Scott on April 23 at 8 p.m. with the president, Dr. J. R. Prichard, in charge. During a short business meeting it was decided to instruct the delegate to the annual meeting to vote for a full-time secretary for the state society. The remainder of the meeting was given to Dr. R. Lee Hoffmann of Kansas City, Missouri, who gave a very practical and interesting paper on "Diseases of the Female Urethra". After the paper there was a free discussion that brought out many interesting points. About 20 members and visitors attended.

R. L. GENCH, M.D., Secretary.

BROWN COUNTY MEDICAL SOCIETY

The Brown County Medical Society met in the probate court room, at 8:00 p.m. on March 30, 1934. Meeting was called to order by President Conrad and minutes of the previous meeting were read and approved.

Dr. J. L. Lattimore, president of the state board of health, gave a very interesting talk on: "A Laboratory Medley".

Contraception letter from Miss Stell Hanau was read; moved we lay it on the table.

Dr. Emery reported there was not any money available for immunization. That Kansas had spent all the money allotted her on building out-houses for rural schools.

Visitors present included: Doctors Faucett and Cooper of Falls City, Nebraska.

Moved we adjourn and repair to the home of Dr. and Mrs. Paul E. Conrad; we did so. We were served with a delicious luncheon by the hostess and spent a very pleasant hour with the Auxiliary ladies there assembled.

The meeting of the Brown County Medical Society was held in the probate court room on April 27, 1934. Meeting was called to order by President Conrad.

Visiting guests included: Doctors J. F. Hassig, C. C. Nesselrode, L. F. Barney, and O. W. Davidson, of Kansas City; W. R. Dillingham, Salina; C. C. Stillman, Morganville; J. H. McGauhey, White Cloud; J. E. Thompson, Huron; E. L. Burner, Sabetha, and J. C. Gillespie and O. F. Lang, Falls City, Nebraska. Judge J. M. Johnson, Mrs. Phillips, Miss Ida Litteral and Miss Mitchell were also present.

The following program was given: Dr. L. F. Barney, "Trend of Medicine"; Dr. O. W. Davidson, "Deceptive Urinary Tract Lesions"; Dr. C. C. Nesselrode, "Cancer Survey of Kansas", and Dr. W. R. Dillingham, "Complication of Cardiac Diseases."

President Conrad introduced Dr. J. F. Hassig, Secretary of the Kansas Medical Society, and Dr. C. C. Stillman, Councilor of the Seventh District. Doctors Hassig and Stillman discussed the proposed full-time secretary for the state society.

R. T. NICHOLS, M.D., Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY

The Crawford County Medical Society and the Ladies' Auxiliary held a joint meeting at the Hotel Besse in Pittsburg on March 30. The guest speaker of the evening was Miss Pearl Moorman of Joplin, Mo., who gave an interesting talk and demonstration of her discovery, "The Intravenous Use of Hydrochloric Acid in Palnesthesia". The demonstration consisted of administering ether to rabbits until they were in profound surgical anesthesia, as manifested by slow and labored breathing and cyanosis. The administration of hydrochloric acid intravenously instantly aroused the rabbits and they appeared perfectly normal.

Dr. A. J. Revell of Pittsburg, gave a case report of "Idiopathic Purpura Hemorrhagica in An Infant Twenty Months Old."

A. J. REVELL, M.D., Secretary.

DOUGLAS COUNTY MEDICAL SOCIETY

The annual spring dinner meeting of the Douglas County Medical Society was held at the Lawrence Country Club May 3, 1934. Attendance from adjoining coun-

ties was somewhat limited because of the heavy rains that evening, but in spite of this 21 members and 33 guests including wives of members, physicians from Johnson and Leavenworth counties, and nurses were present for the dinner and program.

The speaker, a guest of Dr. Lyle S. Powell, was Dr. C. W. M. Poynter, dean of the Medical School, University of Nebraska. His subject was "The Relation of the University Hospital to Medical Education and the Medical Profession." He discussed very clearly the type of a hospital necessary in providing adequate teaching facilities for a Class A medical school. Such a hospital accepts only patients referred to it by practicing physicians and only such patients as are unable to procure proper medical attention elsewhere. The hospital reserves the privilege of accepting only such patients as will be of teaching interest. He pointed out the value of such a hospital to physicians in the surrounding territory in its providing diagnostic procedures and consultations on cases which the physician cannot handle properly because of lack of laboratory or other technical services.

RALPH I. CANUTESON, M.D., Sec'y.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society held their May meeting at Ransom Memorial Hospital, Ottawa, where they were guests of the Board of Administration of the Hospital.

The profession of the surrounding counties were invited and many came. There were 56 physicians in attendance as well as the members of the Board of Administration and the County Commissioners. A very bountiful dinner was served, graciously so by the graduate nurses' association and the food was all that one could desire.

The program following the dinner was a paper on "Intestinal Obstruction" presented by Dr. Charles Gray of Kansas City, Mo. The discussion was opened by Dr. H. S. Hickock, followed by the physicians present. Dr. Gray was introduced by Dr. F. A. Carmichael of Osawatomie. The second speaker was Dr. Joe Welker, Kansas City, Mo., who having been introduced by Dr. P. A. Petitt of Paola, spoke for

30 minutes on the subject of "Coronary Disease."

The June meeting of the society will be held at Osawatimie as guests of the State Hospital, upon invitation of Dr. F. A. Carmichael.

LERTON V. DAWSON, M.D., Sec'y.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, May 7, 1934; President Guy A. Finney in the chair.

Dr. H. R. Wahl, Dean of the School of Medicine and Professor of Pathology of the University of Kansas School of Medicine, was the guest speaker and discussed "Pathology of the Gallbladder". His talk was illustrated with lantern slides, and he also demonstrated a large number of pathological specimens.

Approximately 70 members and guests were present.

EARLE G. BROWN, M.D., Secretary.

WASHINGTON COUNTY MEDICAL SOCIETY

The regular meeting of the Washington County Medical Society was held April 10, 7 p.m., at the Hotel Washington, Washington, Kansas.

We had as our guests, the Clay County Society, of whom Doctors Croson, Stillman, Algie, Martin, and Morton were present. Doctors Weidell, Rush, and Taylor of Beatrice, Nebraska, also were guests. The Washington Society had 100 per cent attendance.

After dinner, Dr. Weidell presented a very interesting paper on "Present Day Diagnosis", and Dr. Rush discussed "x-Ray Diagnosis"; both were enjoyed by every one present.

Dr. Croson invited the Washington County Society to an all day medical meeting at Clay Center in June.

The next regular meeting is to be held in Washington on May 15, one week late, due to the conflicting date of the state medical meeting. Doctors McVay and Wall will be hosts.

DONALD A. BITZER, M.D., Secretary.

WYANDOTTE COUNTY MEDICAL SOCIETY

At a recent meeting, following a thorough discussion, the Wyandotte County Medical Society voted not to endorse certain proposed legislation, the opinion being that this society does not in any way endorse the proposed law, as stated below:

Section 1. That from and after the enactment and publication of this act, it shall be unlawful for any Board of Education or School District Board to enter into a contract of employment with any person to teach in the public schools of Kansas until and unless said public school teacher shall furnish to the Board of Education or the School District Board so contracting with said teacher, a certificate issued by a regularly licensed physician of the State of Kansas, showing that said teacher is in good health and free from any contagious diseases at the time said certificate was made.



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Sec. 2. No such certificate of health shall be deemed valid or effective for more than one year from the date of the issuance of such certificate.

Sec. 3. This act shall be in full force and effect from and after its passage and publication in the official state paper.

At the two March meetings and the first meeting in May of the Wyandotte County Medical Society, papers on the following subjects were presented: "The Diagnosis of Diabetes Mellitus" by Dr. E. S. Miller; "Lantern Slide Demonstration of the Differential Diagnosis of Lesions of the Upper Gastro-Intestinal Tract" by Dr. L. G. Allen, "Low Blood Pressure" by Dr. P. M. Nunn, "Low Back Strains" by Dr. Merle Parrish, and "Diagnosis and Treatment of Infections of the Hand, with Anatomical Demonstrations" by Dr. L. V. Hill.

Dr. H. N. Tihen of Wichita was a guest speaker at the meeting on April 17.

LEWIS W. ANGLE, M.D., Secretary.

At the meeting on May 8, the following program was given: Doctors H. R. Wahl and R. W. Kerr, Pathological Conference. Mrs. Mary Bure, "Objectives of the Visiting Nurse Association." Dr. Merle Parrish, "Low Back Strains;" discussed by Doctors Feehan, Mabie and King. Dr. L. V. Hill, "Diagnosis and Treatment of Infections of the Hand with Anatomical Demonstration;" discussed by Doctors Regier, Carey and Sterrett.

Dr. George M. Gray was the speaker at the dinner meeting held on May 22, at Quivira Lakes. Dr. Gray who is in his fifty-fifth year of practice reviewed

Wyandotte County medical history, from the time of his location in Kansas City to the present time. Dancing followed the dinner.

LEWIS ANGLE, M.D., Secretary.

PERSONALS—NEWS ITEMS

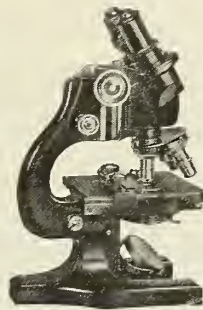
Garnett: Mrs. T. A. Hood, wife of Dr. T. A. Hood, died on May 8, 1934.

Larned: Dr. H. H. Hyde has been named as Assistant Physician at the state hospital. He is a graduate of the University of Kansas School of Medicine and interned at Bell Memorial Hospital.

Lawrence: Dr. J. M. Mott has been appointed city health officer.

Lawrence: Dr. M. T. Sudler has been called to Florida by the illness of his father.

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Kansas City, Mo.

Lebanon: Dr. Jesse Potekin has been commissioned First Lieutenant, Medical Corps U. S. Army and has reported for duty in the CCC, in North Dakota.

Norton: Dr. A. R. Dodds has been named as assistant physician at the State Sanatorium for Tuberculosis. Dr. Dodds is a graduate of the University of Minnesota School of Medicine, and recently has been assistant physician at the Hennepin County Sanatorium, at Minneapolis, Minnesota.

Overland Park: Announcement has been made of the marriage of Dr. Kenneth Carbaugh and Miss Ruth Fulton. Mrs. Carbaugh is the daughter of Dr. and Mrs. John S. Fulton, of Topeka.

Topeka: Dr. Earle G. Brown addressed the Nebraska Conference on Child Health and Protection, held at Lincoln, May 18, 1934.

Topeka: Doctors C. F. and Karl Menninger, Leo Stone and Robert Knight attended the meeting of the American Psychiatric Association at New York, May 29 to June 1, inclusive.

DEATH NOTICES

BENNETT, CHARLES CLIFFORD, Bazine, aged 42, died April 25, 1934, of self-inflicted gunshot wound. He graduated from University Medical College, Kansas City, Missouri, in 1913. His specialty was pediatrics. He was a member of the Society.

HARTMAN, EMIL ERNST, Anthony, aged 35, died April 20, 1934, of influenza-pneumonia. He graduated from Washington University School of Medicine, St. Louis, in 1925. He was a member of the Society.

POWELL, LEWIS MORGAN, Topeka, aged 75, died April 28, 1934, at Eustis, Fla. He attended the University of Kansas, where he won a scholarship to the University of Pennsylvania, and graduated from University of Pennsylvania School of Medicine, Philadelphia, in 1891. He was a life member of the Society.

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ORIGINAL ARTICLES

X-RAY THERAPY OF MALIGNANT TUMORS

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In 1919 Regaud working in the Curie Institute in Paris observed in patients treated with massive doses of radium applied in a short interval of time, a greater degree of normal tissue destruction and less tumor destruction than in those treated with small doses of radium applied for a long period of time. From this observation has evolved the technic of radium treatment utilizing numerous small foci of radium deposited through the tumor area. These deposits are kept in contact with the tumor tissue for a relatively long time. Coutard working on the same theory has established the system of roentgen irradiation which bears his name. The Coutard system of irradiation with modifications has gained favor much more rapidly in Europe than in this country. It is now being used cautiously in selected cases by leading therapists here.

Inasmuch as we feel that there are some who claim to be using Coutard's technic but who are in reality using a modification we summarize briefly Coutard's principles. The technic involves: (a) The use of a small individual dose; (b) prolongation of the treatment period; (c) a high total dose, and (d) hardness and homogeneity of radiation accomplished through heavy filtration and increased distance. Coutard irradiates the skin with a dose of 200 r units or less at one sitting, delivering only three or four r units a minute. The field irradiated is not more than 150 sq. cms. in the average case. The series

of irradiation extends over a period of 21 to 28 days. A total of from 6,000 to 12,000 r units are applied in this interval divided between two or three portals.

It will be seen that Coutard's technic involves not only fractionation of the total dose but protraction of the individual treatment. If the tumor is cross fired through three or four portals and these areas are all treated at one sitting it will mean that the deep therapy machine will be monopolized by each patient for from two to three hours each day. Even recognizing the fact that more than one patient may be treated with a tube at the same time, the protraction of a single treatment as advocated by Coutard, makes this method almost prohibitive for the use of the average busy therapist and limits its use to the clinic with several deep therapy machines and other requisite facilities. The best results from this technic have been reported by Coutard himself. Where his results have not been duplicated the criticism is made that the exact technic has not been followed.

To those therapists who feel that the Coutard technic has something to offer in increased efficiency, a welcome variation is suggested by Borak¹ and by Zwerg². Borak believes that with partial doses not exceeding 225 r units applied daily and a total dose up to 3,600 r units, the result is as good without as with protraction. He uses relatively light filtration and delivers 20 r units per minute to the skin area. As an experiment he irradiated one field for 15 minutes and another for 60 minutes under identical conditions. The total dose to each area was 200 r units at each sitting. The dose was repeated for 10 consecutive days. These fields were observed for one year during which time not the slightest difference could be observed. Zwerg in rabbit experimentation reported the same observation on skin reaction but also noted that

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the white count fell farther and regenerated slower when protraction was not used. Reisner³ exposed small areas on the human thigh using a massive dose of 1,100 r units on one area and fractionated doses on the other areas. He concludes that a 10 per cent dose can be given daily for 27 days. In three weeks this skin reaction cannot be distinguished from that seen with the massive dose and observation for one year shows no variation. If it can be shown conclusively as we feel it has by these experiments that protraction is not a necessity, it will be possible for some of us to use the new modified technic.

If we are to adopt the newer technic we must modify our ideas about skin reactions. It was not so long ago that the radiologist who produced a sharp skin reaction particularly with deep therapy spent sleepless nights with visions of a malpractice suit. The technic of Borak and Coutard disregards the skin erythema as a standard maximum dose. Borak⁴ states from experience that the only real danger from an erythema dose is from the unfiltered ray. He has delivered 2000 r units of filtered rays in a two hour sitting and has seen no ulcer occur in six months observation. The new tolerance dose is one which produces epidermolysis. The epidermis is destroyed and falls off or can be picked off like a sheet of cigarette paper leaving exposed the blood red corium. The dose must not be large enough to produce necrosis of the connective tissue and vessels. Hair follicles are permanently destroyed; other tissue regenerates rapidly. Coutard places the epidermolytic dose at 5,000 r units total dose.

Coutard has limited his technic very largely to the mouth and neck tumors. We get the impression there is a reluctance among European therapists to use the unmodified technic on cancer in the pelvis. Our experience with a modified technic has been on the tumors of the jaw and neck. We report no cures but in all but one definite improvement was seen. At Memorial Hospital in New York City we saw cases of extrinsic carcinoma of the larynx given such a dose in a two week interval that the epidermis was completely removed. These patients were dressed daily with sterile vaseline gauze and were kept

remarkably comfortable. In three or four weeks regeneration was complete and no evidence of tumor could be seen.

The technic which has found favor in this country is that devised by Pfahler based on the work of Kingery. We feel that Pfahler's technic is the more practical and perhaps just as effective as Coutard's. It is used to advantage in deep-seated tumors where the massive doses of Coutard might do irreparable damage to normal tissue. This technic was first reported by Kingery in 1920 in connection with skin treatments. Later its principles were applied by Pfahler to deep-seated malignancies with excellent results. With this technic the lesion is cross fired through as many portals as practical. It is necessary to determine the value in r units of the surface dose required to produce erythema. By means of iso-dose charts the dose at the lesion may then be determined. Pfahler brings the tumor to 100 per cent erythema dose saturation in approximately one week's time. The rate of loss of irradiation in the tissues is calculated and by giving treatments two or three times a week the loss is replaced. The tumor is thus kept at saturation for three or four weeks. The advantage of this method is that the major portion of the treatment is given in such a short period of time there is no chance for the malignant cells to develop resistance. The irradiation is then prolonged over the estimated period of cell mitosis. Smaller doses are given during this subsequent saturation interval because these new formed cells are considered to be more sensitive to irradiation. One distinct advantage of this system as compared to Coutard's method is the fact that normal tissue receives less abuse.

Regardless of the system used there are two or three practical questions that confront the radiologist. The size of the transformer and the type of filtration determine largely the quality of ray delivered to the tumor and this in turn determines the depth to which the ray is effective. The tendency at present seems to be towards machines with high kilo-voltage output, even up to 1,000 kilo-volts. We doubt if one is justified in treating deep seated epidermoid carcinomas with a trans-

former delivering less than 200 KvP. The filter of choice in the past has been 0.5 mm. of copper with aluminum. Heavier filtration seems to be gaining favor. It is still a debatable question whether a short wave such as would be produced by heavy filtration, has any more destructive action on a cancer cell than a long wave. Experimental evidence tends to show that it does not. Packard⁶ working with 0.05, 0.08 and 0.70 A° units exposed *Drosophila* eggs and mouse tumor cells. In each case the effect observed was the same. This type of experiment supplies the logic for the argument that the quantity, not quality of irradiation to the tumor is the important factor. On the other hand we know that when human skin is irradiated with no or slight filtration an erythema dose will be produced with from 400 to 500 r units. An adjoining area when irradiated with all factors the same except the filter which has been increased to two millimeters of copper will require 1,000 r units or more before skin reaction is seen. Failla⁷ concludes that the variation in reaction as observed clinically is due either to (a) a true differential reaction for human skin as compared to other biological test objects, or (b) to scattering of radiation by body tissues. Failla feels as do many other radiologists and physicists that clinically the quality of the ray per se plays an important part in radiation therapy. It seems to us that the greater effectiveness of the higher kilo-voltage transformer will lie in the fact that higher filtration and a shorter effective wave length will be available. Our interest in the Thoraesus filter was stirred by the work of Quimby and Marinelli⁸. Thoraesus has developed a combination metal filter consisting of 0.4 mm. of tin, 0.25 mm. copper and 1 mm. of aluminum. In comparative tests using 200 KvP, 50 cm. target-skin distance and 100 sq. cm. field, Quimby and Marinelli using the irradiation transmitted by 0.55 mm. of copper as a standard, compared the transmission through the filter as measured in air with various other filters, including the Thoraesus. Depth dose was also measured and compared. Some of their findings are shown below:

Filter	Per cent transmitted	10 cm. depth dose
Thoraesus	48.1%	34.8%
0.55 copper (Standard)....	100 %	32.6%
2.16 copper plus 2 Al.....	30.8%	34.4%
1.1 copper plus 2 Al.....	55.5%	34.4%

These figures verify the claim of Thoraesus that his filter gives a considerably higher percentage of transmission than does 2 mm. of copper and a slightly greater depth dose. The transmission through the filter is slightly less than that for 1.1 mm. of copper plus 2 mm. of aluminum. We find the half value in copper of the Thoraesus filter to be 1.675 which is equivalent to an effective wave length of 0.116 A.° U. half value layer for 0.5 mm. copper and 1 mm. aluminum is 0.975 which is equivalent to 0.15 A.° U. Half value layer in copper for 1 mm. copper plus 1 mm. aluminum is 1.325 which is equivalent 0.134 A.° U. It will be seen from this that the Thoraesus filter is an economical type of filter to use when an effective wave length of this quality is desired. We are becoming more convinced as we use the shorter ray that it is more efficient than that produced by 0.5 mm. copper, despite the experimental evidence to the contrary.

PRINCIPLES OF X-RAY THERAPY AS PRACTICED IN THE UNIVERSITY OF KANSAS MEDICAL SCHOOL HOSPITAL.

Roentgen irradiation to deep-seated malignant tumors i.e., all malignant tumors except those of the skin, is given at 200 KvP at 20 milliamperes with an oil cooled tube. Because of space limitations we use a tube-patient distance of 50 cms. We would like to be able to increase this distance to 70 cms. which would materially increase our depth dose. We seldom use less than 0.5 mm. copper filtration and are gradually instituting the heavier Thoraesus filter. Various sized portals are used. All patients are measured with calipers before treatment is started, in the cross section corresponding most accurately to the site of the tumor. Iso-dose charts have been devised for various portals and filtration, from which we are able to determine the depth to which our rays are delivered. The location of the tumor is determined as accurately as possible and we decide what portals shall be used for directing the ray at the lesion. Our decision is based on the fact that we desire

to get a certain predetermined dose to the bulk of the lesion with the least possible damage to the tissues through which the rays pass. If four portals can be conveniently used as in irradiating pelvic tumors we can deliver a greater dose than if only two portals are used. Periodically our machine is calibrated with a Victoreen r meter so that we know accurately at all times how much x -ray is being delivered to the patient's skin and by calculation to the tumor. We have also determined the half value layer in copper for various filters at 200 kilo-volt peak. This is the accepted method of determining the quality of ray used. As the treatment progresses we keep a treatment graph, following the method outlined by Weatherwax⁹. On this graph the number of days during which the treatment series is given is represented as the abscissa and the number of r units is represented on the ordinate. As the series progresses we deduct the saturation loss as calculated by Weatherwax. Our graph will then show plotted against time, the number of r units delivered to each skin area; the rate of saturating each skin area, and the total amount delivered to the tumor. Assuming that the tumor saturation is proportional to the skin saturation, this may also be shown. By means of a short focal length camera, a lantern slide of the cross section in which the tumor lies is focused on a sheet of paper ruled in centimeter squares. The outline is projected within dimensions corresponding to the size of the patient and is roughly traced forming a part of the permanent record. By referring to this cross section diagram one may see at a glance how the rays have been projected into the tumor and what proportion of the surface dose has reached the tumor.

For mouth and jaw tumors we have for several months been using a cautious modification of Coutard's technic. Our modification has been elimination of protraction as advocated by Borak. We have not as yet felt justified in giving the enormous doses used by the French but have in a few cases used 2,500 r units in one month interval. Filtration in these cases has been with 0.5 mm. copper. We have under treatment now a case of carcinoma

of the parotid gland that is responding so well to large doses of x -ray filtered with the Thoraeus filter, that we plan to resort to the heavy filtration in more cases of carcinoma of the mouth and neck.

Carcinoma of the breast if operable is treated with heavily filtered deep x -ray to the glandular areas and rays filtered with 0.5 mm. copper to the chest wall using a tangential ray, avoiding cross firing the chest as much as possible. Approximately 1,000 r units are delivered to each area in the course of a week. Our subsequent procedure differs from that of most clinics in that operation follows immediately, usually the next day after the last treatment. We at first followed this procedure from economic necessity as many of the patients are sent in as charity patients from their home county and we wished to cut their hospital stay as short as possible. The surgeons observed that in these cases contrary to general opinion, bleeding is not materially increased and healing proceeds normally. The patient returns in two months for her second series of treatments. Subsequent series are given at lengthening intervals until eventually she is treated at 10 or 12 month periods. If the case is one of inoperable breast cancer, Pfahler's technic is used. We get desquamation in most of these cases and in one under treatment now, skin regeneration is progressing normally two weeks after epidermolysis. Supraclavicular glands in this case cannot now be palpated and the breast is much softer.

Carcinoma of the pelvis is the ideal location for the use of Pfahler's technic because of the ease with which several beams may be directed at the tumor. We use the Thoraeus filter on all of our carcinoma of the cervix cases. In a large pelvis even when the rays are delivered through four portals we are unable to deliver 100 per cent of the dose given to a single skin area, to the tumor, if it is near the mid-point. We follow Loughery and Stecher¹⁰ and Weatherwax⁹ in arbitrarily setting the total dose delivered to one skin area, to two or two and one-half erythema doses, delivered in 23 to 30 days time. If the pelvis is small so that more than 100 per cent reaches the cervix, the above dose de-

livered to the midpoint must be the limiting factor. We find that with heavy filtration 1,000 r units measured with back scattering is an erythema dose. Here again we find the economic question making it necessary to modify our procedure. Most patients are financially unable to remain in the hospital for one month. Where possible we handle them as outpatients. If they cannot remain under treatment for one month we give a pelvic cycle consisting of a ten minute treatment over each of four semilateral areas. In this interval we deliver 168 r units of heavily filtered radiation to each skin area. The treatment is continued for seven days. In this interval 1,150 r units are delivered to each area. This technic is modified in individual cases.

In all deep x-ray therapy we must avoid letting the ray skim along the side of the part treated instead of passing through it. This is particularly likely to happen in treating such an irregular surface as the jaw and cervical region. To avoid this tangential ray and procure uniform radiation we pack small rice bags about the part being treated. Rice has about the same absorption coefficient as has tissue.

Skin epitheliomas are treated with 12 KvP, five milliamperes, and filtration from unfiltered to three mm. of aluminum. Filtration used depends on the depth of the lesion. If the unfiltered ray is used the irradiation is limited closely to the lesion. We often after close localization take in an area with three times the diameter of the primary lesion and deliver 800 or 1,000 r units filtered ray additional. A total of from four to seven erythema doses is delivered to the lesion depending on the pathological report as to cell type. This dose is given in one sitting.

SUMMARY

With the development of instruments of precision much of the uncertainty as to dose has been removed from x-ray therapy. There has been at the same time material advancement by the pathologist and radiologist in determining the dose necessary to destroy cancer. Coutard and Pfahler have outlined methods for delivering increased doses to the tumor without injuring normal tissue permanently.

If one is to follow Coutard's technic he must be prepared for much greater tissue damage than he has previously considered safe. The surgeon does not hesitate to remove a leg in the attempt to cure a patient of sarcoma of the femur; neither does he hesitate to do a neck dissection for cancer of the lip if in his opinion he can cure the patient even though he knows there is a certain per cent of primary mortality. Why then should not a radiologist as well feel justified in using radical methods within his province in treating cancer? Coutard's method is a radical procedure but cancer requires a radical attack. Feeling as we do that heavier radiation with shorter wave length is one of the solutions to the cure of cancer we still must admit that many of the cases referred to us are beyond hope, regardless of what we do. From our experience we feel that no case should be considered beyond help until it has been given a thorough course of well planned irradiation. When once a case has been proved inoperable and not sensitive to radiation we cannot dismiss the patient to die. Some one must show an interest. We still owe the patient an obligation. Pain can be controlled in many cases with radiation and if we do nothing more than to keep up the patient's morale our time is not wasted. We are no more justified in this type of case in using the radical methods of Coutard than is the surgeon in doing mutilating operations on hopeless cases.

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Localization of Intraspinal Tumor by Means of Lipiodol Injection—Case Report With Operation and Recovery

CHARLES C. UNDERWOOD, M.D., and

FRANK R. TEACHENOR, M.D.*

The use of iodized poppy seed oil was introduced as a medium for the visualization of intraspinal block as early as 1921, by Sicard and Forestier. Since then much has been published both for and against the use of this oil; those who advise not to use it say that it is toxic and causes meningeal irritation, and that it is seldom necessary for localization of intraspinal tumors. Lindblom reported five cases in which all patients had a pronounced meningeal reaction and pleocytosis of 1,000 white cells per cubic millimeter. Ebaugh and Mella injected lipiodol by cisternal puncture into 13 patients, and noticed that bloody fluid was obtained in subsequent spinal punctures. These authors, however, did not report permanent ill effects.

There is no doubt that other writers have proven that iodized oils may cause a severe reaction and may cause permanent harm in some cases. In spite of this fact we use lipiodol in this clinic whenever we feel that there is an intraspinal tumor and neurological findings do not definitely localize the lesion.

CASE REPORT

C. H., a white male 20 years of age, was first seen in the Medical Clinic, of the Outpatient Department, Bell Memorial Hospital, February 5, 1934, for diagnosis. The patient was perfectly well until the first week in November, 1933, when he first had difficulty in walking; that is, his legs were unsteady like a drunken man. The right leg was affected first and to a greater extent. This disturbance in gait was not preceded or accompanied by root pains of any sort. In December he noticed that the muscles of his lower extremities had the feeling of "tightness" on arising

in the morning and that he would have to "limber up" a few minutes before he could walk. About Christmas he began to have difficulty descending the stairs and had a tendency to fall forward and to either side. In his own words the patient said that he "didn't have control over his feet" and "didn't know where they were going." His ataxia was not increased by being in the dark. He grew progressively worse and on January 31 he began to drag his right foot when he walked and two days later he consulted his family physician who suspected syphilis and drew blood for complement fixation, which was reported negative. Except for slight difficulty starting the urinary stream during the two weeks prior to admission, there was no sphincter disturbance. He was helped into the dispensary on the morning of February 5; he was examined in the medical clinic and sent into the hospital with the tentative diagnosis of spastic paraplegia due to spinal cord neoplasm.

Physical Examination: Slender white male, 20 years of age, who does not appear acutely ill, but experiences great difficulty in attempting to walk, frequent spontaneous ankle clonus would cause him to fall. Except for the neurological findings the physical examination was negative. B. P. 114/60. Neurological findings: Pupils regular and equal, react normally to light and accommodation. Except for a slight temporal pallor of the optic discs the cranial nerves were normal. The upper extremities were negative. All tendon reflexes of the lower extremities were markedly exaggerated and Babinski present on both sides. The ankle clonus was so marked and sustained that it was necessary to flex the knees in order to stop it; in fact the patient had to lie in the flexed position to prevent spontaneous clonus. The abdominal reflexes were absent below the navel and diminished above. When the patient attempted to tense the abdominal muscles the umbilicus was drawn upward. There was a diminution of sensation to cotton below the navel. Vibratory sensation was diminished over sacrum, both tibiae, patellae and malleoli. No sphincter disturbance evident. There was no area of anesthesia to pain or temperature.

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Laboratory Findings: Urine negative; Red blood cells, 4,870,000; white blood cells, 8,700, polymorphonuclear 65 per cent; blood chemistry normal; blood Wassermann and Kahn negative. Spinal fluid examination: Wassermann and globulin were negative and there was no reduction of the colloidal gold. The intraspinal pressure was 14 mm. of mercury and the Queckenstedt test (jugular compression) was positive for a complete block.

The patient was seen by the neurological consultant on February 11, and the differential diagnosis of multiple sclerosis and spinal cord tumor was made. Due to the temporal pallor of the optic discs, age of the patient, history of onset, absence of root pains and sphincter disturbances, multiple sclerosis was considered most probable. This, however, did not account for the positive Queckenstedt and air injection was recommended to localize the block. Air was injected by means of lum-

bar puncture, and during the course of the injection the patient complained of severe pain in the back at the level of the 10th to 11th thoracic vertebra, and then a severe knife-like pain in the left lower abdominal wall. This root pain made the diagnosis of intraspinal tumor more probable. *x*-Ray plates taken almost immediately did not show air in the spinal canal so it was evident that the block was not complete.

Consultation was had with the neurosurgeon who recommended lipiodol injection for localization. On February 22, 2 cc. of lipiodol was injected by means of cisternal puncture and *x*-ray plates were taken immediately with the patient erect. These showed the lipiodol at rest at the level of the articulation of the 6th and 7th thoracic vertebra. One hour later some of the oil has passed the obstruction but the major portion remained at the same level. At this time we see a small amount of the oil sus-

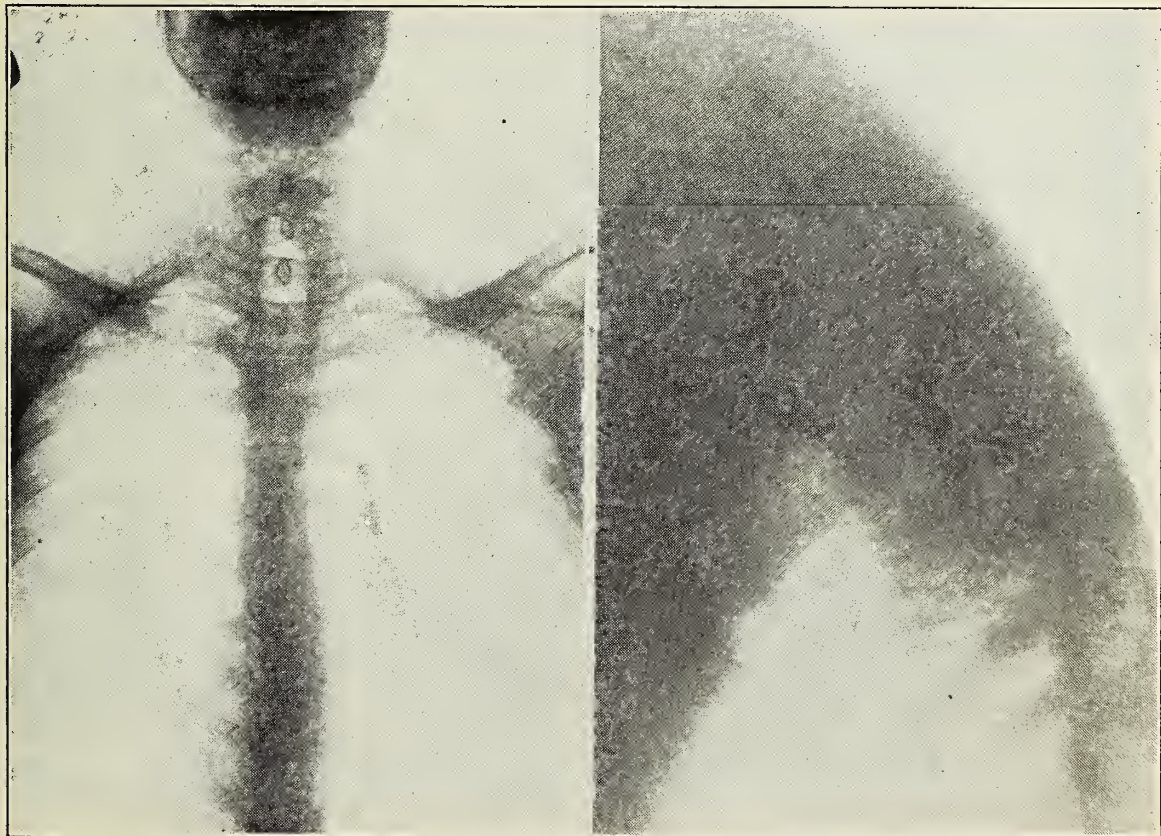


Fig. 1

Anterior-posterior view showing lipiodol arrested at the level of the articulation of the 6th and 7th thoracic vertebrae.

Fig. 2

Lateral view showing failure of lipiodol to settle in the dependent portion of the spinal canal.

pended two segments lower. Conclusion by the Roentgenologist, Dr. Galen Tice: Obstruction to the free circulation of the spinal fluid at the level of the cartilage between the 6th and 7th thoracic vertebra. We see no evidence of bone change at this point.

The patient was operated on the 24th of February, 1934. Dr. Teachenor's operative note: "Incision in the midline over

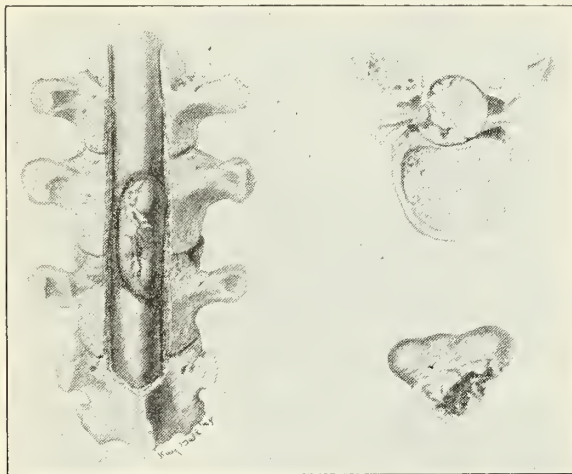


Fig. 3

Drawings showing (a) the tumor lying in the canal; (b) a cross section depicting the compression of the cord; and (c) lateral view of the tumor drawn in its proper proportion to the vertebrae shown.

the spinous processes of 4th to 9th thoracic vertebrae. Laminectomy of 6th, 7th, 8th, and part of 9th thoracic vertebrae. Spinal cord tumor, extradural on right and posterior surfaces of spinal dura, compressing spinal cord to left and anteriorly. Tumor entirely extradural and apparently arising from nerve root on right. Tumor appears to be a meningioma or neurofibroma. Incision closed by layers with chromic catgut and silk."

Pathology report by Dr. H. R. Wahl: Section shows rather dense interlacing bundles of cellular fibrous tissue often showing typical palisading of the nuclei of tumor cells. The cellular outlines of these tumor cells are indistinct. The nuclei in some areas are all spindle or triangular in shape and are all fairly uniform in size and staining reaction. The cells in some areas appear in whorls. In other areas, however, the nuclei show a different picture. Here the nuclei are larger, more oval,

stain darker, and are arranged in bunches giving the appearance of increased cellularity. No mitotic figures are seen. The tumor cells often rest directly upon the blood vessel walls. Many dilated blood spaces occur. Hemorrhage and mononuclear infiltration are seen all through the stroma. A dense fibrous capsule surrounds one edge of the tumor. The blood vessels within the capsule are quite numerous and show thickening of the wall. Hemorrhage and foci of mononuclear leukocytes are frequently seen throughout the capsule. There is no evidence of tumor tissue infiltration into the capsule. Diagnosis: Schwannoma of spinal cord (extradural neurofibroma).

After operation the patient made an uneventful recovery, 24 hours after operation he was able to move his toes, and a few days later he was able to move his lower extremities, the right better than the left.

Six days after the operation the Babinski was not present, but the ankle clonus could still be elicited on both extremities. He was able to walk a little about the ward during the last few days of his hospital stay. He was dismissed three weeks after operation. After dismissal from the hospital, the patient made a progressive improvement, and in only a few weeks was able to walk as well as he had previous to his illness. At the time of this writing, approximately four months after the operation, the patient has completely recovered and is spending his vacation in Minnesota.

SUMMARY

1. The value of lipiodol injected into the cisterna magna both to confirm and to localize an intraspinal tumor is pointed out.

2. A case is reported with spastic paraplegia due to an extradural tumor with complete cure after operation.

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CASE REPORT

The Levin Tube*

WILFRED COX, M.D.

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The smooth tipped duodenal tube for nasal intubation was introduced by Levin in 1921.¹

It has been more recently used in the treatment of peritonitis and paralytic ileus. Wagensteen and Paine have used the duodenal tube with constant negative pressure successfully in intestinal obstruction.²

There are two methods for using the Levin tube: First introduce the nasal tube and irrigate every two hours; second, introduce the tube and use constant negative pressure.

Figure 1

1. Levin tube: the Levin tube is inserted through the nose into the stomach or duodenum.

2. Syringe for irrigation every two hours.

3. Water: It is easier to insert the nasal tube in a conscious patient if the patient takes a swallow of water first.

4. Large measure containing salt solution for irrigation.

5. Small measure containing glycerine, with which the Levin tube is lubricated.

Figure 2

Numbers 1, 2, 3, 4 and 5 same as in Figure 1.

6. Y-tube: The Y-tube is used so that the stomach may be irrigated at any time without disturbing the rest of the apparatus.

*Read before the meeting of the staff of St. Francis Hospital, Wichita, Kansas, April 9, 1934.

7. Tube No. 7 connects the Y-tube to the syringe for irrigation as needed.

8. Short rubber tubing: connects the Y-tube to the upper bottle.

9. Upper bottle.

10. Long rubber tube: Connects the upper and lower bottles and forms a siphon which draws the water from the upper bottle into the lower creating a negative pressure in the upper bottle.

11. Lower bottle.

Indications for using the tube: First, for the convenience of the patient, e. g. to relieve vomiting or so patient may have water as desired; second, to give time for diagnosis; third, to prevent acute dilatation of the stomach; fourth, to drain the upper small intestines, e. g. peritonitis or paralytic ileus; fifth, to decompress the upper small intestines in intestinal obstruction, and sixth pre-

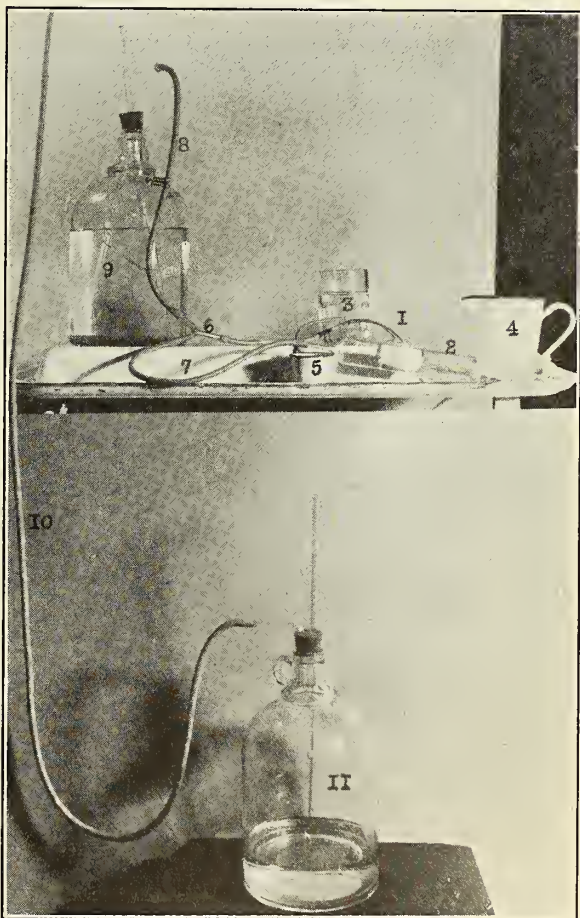


Fig. 2

Constant Negative Pressure

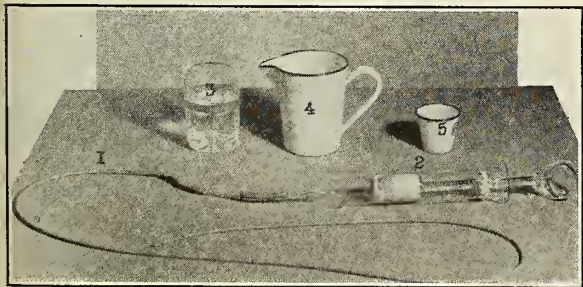


Fig. 1

Levin Tube With Irrigation Every Two Hours

operative preparation of the patient in obstruction of the pylorus of the stomach whether due to ulcer or malignancy.³

Contraindications for using the tube: Contraindications for using the tube are: First, strangulation (blood supply of the intestines interfered with) also thrombosis or embolism of mesenteric vessels, localized tenderness, x-ray (showing no gas in large intestines) and the stethoscope are valuable aids in making a diagnosis of strangulation; second, acute obstruction of the descending colon (small intestines are not distended); third, stricture of the intestines whether simple or malignant; fourth, complete obstruction where the patient shows no relief from vomiting and distention with the use of the tube.

COMMENTS

In all of the above cases the routine treatment for peritonitis was used, e. g. Fowler's position, heat to the abdomen, morphine, salt solution, glucose and blood transfusions as needed.

Patient No. 10 who died, should not have been operated upon. He had appendicitis with general peritonitis on entrance into the hospital.

Patient No. 11 might have recovered with an early operation.

The average number of days the tube was left in on all cases was $5\frac{1}{4}$ days, on those who lived 5 9/10 days.

CONCLUSION

In properly selected cases the use of the Levin tube should lower the mortality rate in acute dilatation of the stomach, peritonitis, paralytic ileus, intestinal obstruction, and in preparation of the patient for operation in obstruction of the pylorus of the stomach whether due to ulcer or malignancy.

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2. Wagensteen, O. H., and Paine, J. R.: Treatment of acute intestinal obstruction by suction with the Duodenal tube. J.A.M.A. Vol. 101 (Nov. 11) 1933.
3. Orr, T. G.: Preoperative Preparation of the Dilated Stomach. Surg. Gynec. and Obst. to be published.

REPORT OF CASES

Operated	Postoperative Complications	Method of Using Tube	Days Tube Used	Result
1. Intestinal obstruction	Paralytic ileus	Washed stomach every two hours, irrigated with duodenal tube	5 2	Recovery
2. Intestinal obstruction	Paralytic ileus	Irrigated every two hours	10	Recovery
3. Appendicitis	Localized peritonitis, paralytic ileus	Irrigated every two hours	6	Recovery
4. Appendicitis	Localized peritonitis, paralytic ileus	Irrigated every two hours	6	Recovery
5. Appendicitis	Localized peritonitis paralytic ileus	Gastric Lavage Irrigated every two hours	6 1	Recovery
6. Gallbladder	Vomiting after first 24 hrs.	Irrigated every two hours	3	Recovery
7. Gallbladder Common duct stone	Relief of patient	Irrigated every two hours	4	Recovery
8. Gallbladder and common duct stone	Relief of patient	Irrigated every two hours	5	Recovery
9. Perforated duodenal ulcer	Peritonitis	Irrigated every 24 hours	4	Recovery
10. Appendicitis, general peritonitis	Peritonitis, paralytic ileus	Irrigated every two hours	2	Died
11. Subtotal hysterectomy	Duodenal obstruction on the ninth postoperative day	Negative pressure	*3	Died
Not Operated	Method of Using Tube	Days Tube Used	Result	
12. Postabortal peritonitis, paralytic ileus	Constant negative pressure	6	Recovery	

*Preoperative

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Attention is being called to the co-existence of tuberculosis and diabetes. Is the presence of these diseases in the same individual merely coincidental or do they supplement each other in an unholy alliance to the more certain detriment of the victim? Questions of predisposition, prognosis and treatment are influenced by the answer. In a series of four articles based on an analysis of the literature and on recently ascertained facts, Howard F. Root discusses "The Association of Diabetes and Tuberculosis."

Diabetes and Tuberculosis

Diabetes mellitus seems to predispose to the development of pulmonary tuberculosis. In studying 245 cases of associated diabetes and pulmonary tuberculosis the following facts appeared outstanding.

(a) The development of pulmonary tuberculosis in juvenile diabetes occurred more than ten times as frequently as among non-diabetic grade and high school children.

(b) Pulmonary tuberculosis developed in 8 per cent of diabetic patients within three years of recovery from coma.

(c) The incidence of pulmonary tuberculosis in adult diabetics is increasing despite the general decrease of tuberculosis mortality.

INCIDENCE

(1) Active tuberculosis was found in diabetics (at autopsy) between two and three times as frequently as expected.

(2) Tuberculous infection in diabetic children is more common than in school children as a whole.

(3) Adult type pulmonary tuberculosis in children who develop diabetes before the age of 15, is more than thirteen times as frequent as among grade school children in general.

(4) In adolescents who developed diabetes between the ages of 15 and 20, pulmonary tuberculosis was found sixteen times as frequently as among high school students in general.

(5) Among diabetic adults active tuberculosis was found in 2.8 per cent.

(6) Deaths from tuberculosis among diabetics increased from 4.7 per cent before June 1919 to 6.7 per cent in the period between August 1922 and November 1931.

(7) Familial contact, race, occupation, housing, poverty, and alcoholism do not appear to explain the greatly increased incidence of pulmonary tuberculosis in diabetics.

PATHOLOGY

Study of 126 autopsies upon tuberculous diabetics leads to these summarized conclusions:

(1) The tuberculous diabetic need not proceed rapidly to death from tuberculosis. At autopsy healed and healing lesions are frequent.

(2) Primary foci occur in childhood and areas of calcification in the parenchyma were observed in 76 out of 87 chest films of adult tuberculous cases.

(3) Miliary, meningitic and acute generalized tuberculosis are rare.

(4) Caseation and cavitation involve chiefly the upper lobes although the first lesions of reinfection were sometimes observed at or below the level of the hilum.

(5) Acute pneumonic or miliary processes were found usually as terminal events in a chronic pulmonary process.

(6) The presence of large caseating lymphatic glands together with pulmonary tuberculosis in five cases resembled the tuberculosis of Negroes.

(7) Because of primary infection early in life, diabetics are highly sensitized. Their resistance seems to have been normal until diabetes developed.

(8) Etiologic factors introduced by diabetes are concerned chiefly with changes in body chemistry which may favor multiplication of bacilli or development of variants. These include disordered protein and fat metabolism with increased amino acid nitrogen and glycerol in the tissues, induced especially in periods of acidosis.

(9) Contact with open cases is known in a sufficient number to make evaluation of other factors difficult.

CLINICAL FACTS

The clinical data which were obtained

from 245 tuberculous diabetics include the following:

(1) Only 10 were discovered with a minimal pulmonary lesion. Tardy diagnosis characterizes diabetic tuberculosis.

(2) Onset of tuberculosis was subsequent to onset of diabetes in 85 per cent of the cases.

(3) Although both sexes were equally infected early in life, male diabetics are almost twice as likely to break down in adult life with pulmonary tuberculosis as are females.

(4) The average loss of weight for 219 cases was 42 pounds and in 24 cases the average was 88 pounds.

(5) Marked gain in carbohydrate tolerance during advancing tuberculosis occurred in a few cases.

(6) Comparison of onset-symptoms and physical signs with those in non-diabetics shows no special insidiousness in the development of tuberculosis in the diabetic.

(7) No special diabetic type of lesions was observed (by roentgenograms) although exudative, pneumonic types with cavitation frequently developed in patients with evidences of previous infection.

(8) The incidence of pulmonary tuberculosis increases with the duration of the diabetes. Among 19 males with diabetes over 20 years, 3 or 16 per cent had active pulmonary tuberculosis.

(9) In childhood, skin tests with tuberculin were positive in 46 per cent of cases both in Boston and in Vienna. Among 201 diabetic children calcified tracheo-bronchial glands were found in 42 per cent in the first decade and 74 per cent in the second decade of life.

(10) Of seventeen cases of adult type tuberculosis in juvenile diabetics, eleven are still living with diabetes of nine years' duration and tuberculosis of at least three years' duration.

(11) In 49 cases, tuberculosis developed after the age of 60 years. Processes apparently latent for years developed activity after onset of diabetes.

PROGNOSIS

The prognosis for the diabetic patient with tuberculosis was considered practically hopeless before the use of insulin.

All statements in the past have been based upon tuberculosis discovered in an advanced state. At present insulin and modern dietary treatment distinctly improve the prognosis in preventing death from coma and in maintaining better nutrition. Collapse therapy in properly selected cases is an additional favorable factor.

PREVENTION AND TREATMENT

(1) In order to promote good nutrition and resistance to tuberculosis, the use of insulin should be begun immediately in all youthful diabetics.

(2) Considering age, weight and diet the tuberculous diabetic required about the same insulin dose as the non-tuberculous case. The average daily dose in 18 cases of tuberculosis and diabetes at the Deaconess Hospital between the ages of 15 and 29 years was 39 units.

(3) Serious hypoglycemia must be guarded against by the cautious use of insulin in severely ill, or emaciated tuberculous diabetics.

(4) Sixty-nine fatal cases of tuberculosis and diabetes treated with insulin lived 8.6 years, whereas, 90 fatal cases treated without insulin lived only 5.4 years after onset of diabetes.

(5) The last ten cases of active tuberculosis and diabetes with fever at the Deaconess Hospital received an average diet of carbohydrate 157 grams, protein 83 grams, fat 116 grams, calories 2,004 and insulin 42 units.

(6) Coma cases should be followed up yearly by x-ray examination for the detection of developing tuberculosis.

(7) Eighteen cases alive in 1933 have survived active pulmonary tuberculosis for an average of 9.0 years.

(8) The recognition of pulmonary tuberculosis in a truly incipient stage in a diabetic is almost unknown in the literature. Ten cases occur among 245 in this series.

(9) Prognosis for the tuberculous diabetic depends upon earlier diagnosis of the tuberculosis by more frequent physical and x-ray examination.

(10) Lack of control of the diabetes increases the chance of developing tuberculosis, as indicated by the frequent development of tuberculosis in cases who

have had coma.

(11) Preventive measures include early aggressive diabetic treatment, and good hygiene.

The Association of Diabetes and Tuberculosis, Howard F. Root, New England Jour. of Medicine, Jan. 4, Jan. 15, Jan. 18, Jan. 25, 1934.

—R—

CANCER SURVEY OF KANSAS

FRANK LESLIE RECTOR, M.D.*

Evanston, Illinois

INTRODUCTION

A marked change has taken place in the attitude of the medical profession toward the control of cancer during the past few years. Twenty years ago little or no thought was given to the problem of early diagnosis and early treatment because cases were so seldom seen and recognized in these early stages that they excited no special interest.

As the cancer problem was studied more intensively in the laboratory and clinically, it was found that many cases responded to adequate and competent therapy and that there was hope and considerable assurance that cures could be expected if cases were seen sufficiently early in their course.

An increasing interest in research was stimulated by discovery of the therapeutic properties of roentgen rays and radium. This opened an entirely new field for the diagnosis and treatment of cancer. Types of malignancy formerly considered hopeless, were found to be responsive to radiation treatment to the extent of making such patients comfortable over a much longer period than they had enjoyed previously, or of curing them. This stimulated further research in fundamental problems and such investigations are now being followed and extended widely. Laboratory investigation into etiological and related factors has advanced further than similar studies in clinical problems. The unknown etiology and relatively small percentage of cures compared with the number of patients treated make cancer one of the greatest challenges to medical science today. An increasing interest in

the whole field of malignancy is being shown both by professional and lay groups.

While certain facts are known about the cancer problem in general, there is a great paucity of information about specific phases of the question. This information is lacking especially in regard to facilities available for adequate diagnosis and treatment, where such facilities may be found, also where they are lacking. Such information can be obtained only by careful surveys of hospitals, clinic groups and other organizations concerned with the cancer problem.

The Kansas Medical Society for many years has been engaged in professional and lay education in the cancer field. Its Committee on Control of Cancer was first appointed in 1916 and has since been one of the regular committees of the society. In the development of the committee's work it was felt that before much further progress could be made, it would be necessary to obtain fundamental facts about the cancer problem in Kansas, the analysis of such facts, when available, to be used as a basis for a more adequate program of cancer control in that state.

At the annual meeting of the House of Delegates of the Kansas Medical Society, May 2, 1933, the following report was submitted by Doctor C. C. Nesselrode, Chairman of the Committee on Control of Cancer. The report was accepted and the resolution adopted.

To The House of Delegates, Kansas Medical Society:

Your Cancer Committee, realizing as it does, the size and extent of the cancer problem, recognizes the apparent increase in the importance of cancer as one of the principal causes of death, it having advanced in twenty years from sixth to second place. This society was one of the first to appoint a committee on cancer and to engage in the enterprise of professional and lay education, having begun its work in 1916.

The American Society for the Control of Cancer has offered to make certain facilities available in this campaign of education.

Recognizing these facts, your Committee wishes to offer the following resolution:

Whereas, The rapid increase of cancer in its various forms is assuming alarming proportions, now being second only to heart disease as a cause of death; and

Whereas, The present cancer situation is a challenge to the medical profession to render an increasingly effective service in its diagnosis and treatment; and

Whereas, The greatest hope for reducing the increasing mortality from this disease lies in diagnosis and treatment in early stages; and

*Field Representative, American Society for the Control of Cancer, New York, N. Y. Clarence Cook Little, Sc.D., Managing Director.

Whereas, The medical profession and the hospitals are the only forces capable of coping with the cancer problem at this time; and

Whereas, There is need for further education of the medical profession and the public as to the need for and value of early diagnosis and early adequate treatment; and

Whereas, A constructive program of improved cancer service can be based only on accurate information as to the present professional and institutional facilities for the diagnosis and treatment of this disease; therefore, be it

Resolved, That the Kansas Medical Society approve and sponsor a survey of the cancer situation in Kansas, and that the American Society for the Control of Cancer be requested to make such a survey, reporting its findings with recommendations to this Society.

When the proposed survey was brought to the attention of the Kansas Hospital Association, endorsement of the undertaking was indicated at a meeting of the Executive Committee by passage of the following resolution:

Whereas, The Kansas Medical Society has invited the American Society for the Control of Cancer to make a survey of the cancer problem in this state; and

Whereas, Among other features this survey covers the equipment and other hospital facilities for the diagnosis and treatment of this disease; and

Whereas, We believe that this survey will prove of much value to the hospitals of Kansas, as well as to the medical profession and the public, by giving for the first time a comparative analysis of the cancer problem in this state; and

Whereas, The chief purpose of this survey is to develop a program of better care of cancer patients, in which program the hospitals have an important part;

Therefore, be it Resolved, That the Kansas Hospital Association heartily endorses the survey to be made by the American Society for the Control of Cancer and urges upon our members their full cooperation with those conducting this survey to the end that there may be developed in Kansas adequate facilities for the care of all citizens of the state who may be in need of such care and treatment.

The Kansas Hospital Association.

J. T. AXTELL, M.D.

A. R. HATCHER, M.D.

JOHN E. LANDER,

Executive Committee.

At the annual meeting of the Kansas State Board of Health held June 29, 1933, the approval of the survey was recorded by passage of the following resolution:

Whereas, The Kansas Medical Society has invited the American Society for the Control of Cancer to make a survey of this state; and

Whereas, The Executive Committee of the Kansas Hospital Association has extended a similar invitation, and

Whereas, There are many phases of the cancer problem of public health significance;

Therefore, be it Resolved, That the Kansas State Board of Health approve and endorse this survey to be made by the American Society for the Control of Cancer, in cooperation with the Kansas Medical

Society and the Kansas Hospital Association; and

Be it Further Resolved, That the Kansas State Board of Health proffer such assistance as the facilities of the department permit to the carrying out of this survey.

Thus it is seen that the agencies in Kansas most concerned with the cancer problem, the Kansas Medical Society, the Kansas Hospital Association, and the Kansas State Board of Health, have given to this survey their full endorsement and cooperation.

With but two exceptions, to be noted later, the field work of this survey has been conducted with the fullest cooperation of hospital executives, medical staffs, and physicians in cities visited. Officers of the state medical society and members of its cancer control committee have given enthusiastic support to the work. The Secretary of the State Board of Health placed the facilities of his department at our disposal and the Division of Vital Statistics supplied the material for tables on cancer mortality incorporated in this report. The dean and faculty of the School of Medicine of the University of Kansas showed a marked and helpful interest in the work.

Without the cooperation of the above-mentioned organizations and individuals, this survey would not have been possible. It is a pleasure here to recognize and acknowledge their interest and assistance.

METHODS OF THE SURVEY

Previous to making this survey, a visit was made to Kansas and the work discussed with organizations and individuals most concerned with it. Shortly before the field work was begun, the following questionnaire and covering letter were sent to all general hospitals in the state with a listed capacity of 25 beds or more, asking for information on bed capacity, equipment, methods of handling cancer patients, and statistics of their cancer experience during the year 1932.

Upon request of the Kansas Medical Society, the American Society for the Control of Cancer is undertaking a survey of the hospital and medical facilities in that state for the diagnosis and treatment of cancer.

This survey will bring together for the first time in Kansas information as to existing facilities for the diagnosis and treatment of cancer in its various forms, and should prove of benefit alike to the general community and those primarily interested in this disease.

From the data assembled a report will be prepared for the medical society with recommendations.

To make this survey as comprehensive and valuable as possible, your cooperation is earnestly requested. The enclosed questionnaires, one copy being for your own files, require a minimum of statistical work, the majority of questions being answered by yes or no.

It will be greatly appreciated if the completed questionnaire could be returned not later than July 15, next.

Anticipating your cooperation in this important work, I am,

Sincerely,

F. L. RECTOR, M.D.,
Field Representative.

THE AMERICAN SOCIETY FOR THE CONTROL
OF CANCER

1250 Sixth Avenue, New York, N. Y.

HOSPITAL SURVEY OF CANCER FACILITIES IN
KANSAS

1. Name of hospital
2. Address of hospital
3. Superintendent's name
4. Total number of beds (excluding bassinets)
5. Number of beds designated for cancer patients
6. Maximum voltage of x-ray machines in kilovolts
7. Number of milligrams of radium owned by hospital
8. Number of milligrams of radium owned by local physicians
9. Does hospital rent radium? Purchase radon? From where obtained?
10. Is there a laboratory properly equipped for tissue examination? For making frozen sections for quick diagnosis during operation?
11. Is the pathologist in charge a physician?
12. Is the pathologist on full or part-time service?
13. If part-time, how many hours daily or weekly in attendance?
14. If there is no laboratory, where are tissues sent for examination?
15. Is the hospital affiliated with a medical teaching institution?
16. Is there an organized tumor service?
17. Is there an Out-Patient Department?
18. Number of new cancer patients seen in Out-Patient Department in 1932?
19. Has hospital a social service department?
20. Is status of all cancer patients known five years after discharge?
21. Number of adult patients admitted to hospital in 1932?
22. Number of cancer* patients admitted to hospital in 1932?
23. Number of all hospital deaths in 1932
24. Number of cancer deaths in 1932
25. Number of autopsies performed in 1932
26. Number of cancer autopsies performed in 1932

Date..... Signed by.....
..... Official position.....

*All malignancies.

Each hospital contributing to the survey was visited and cancer problems discussed with the superintendent and such staff members as were available. Physiological equipment of the hospital, particularly surgical laboratory, and x-ray

equipment, was inspected. Some time was spent in discussing cancer problems with physicians known to be particularly interested in the work. As opportunity offered, talks were given to nurses and physicians at which time the Canti film was shown. The information and statistical material collected during this survey have been analyzed and form the body of this report.

HISTORICAL

Kansas was first visited by white men in 1541 when Coronado traveled up from Mexico. The next record of visits by whites was in 1719 when Frenchmen from Louisiana traveled over the country. A large portion of the state was included in the Louisiana Purchase of 1803. Among the early explorers to visit this region were Lewis and Clark in 1804, Pike in 1806, and Long in 1819. Fort Leavenworth, the first military post in this part of the frontier, was established in 1827. In 1854 Kansas was organized as a territory and admitted as a state in 1861.

The Kansas Medical Society was incorporated by the Territorial Legislature on February 10, 1859, and held its first meeting in Lawrence that same day. Dr. S. B. Prentiss was the first president of the society, being followed the next year by Dr. J. P. Root. After the third meeting in 1861, no more meetings were held until 1866, due to the Civil War. At the annual meeting in 1866 a committee was appointed to confer with the regents of Kansas University regarding the establishment of a medical school in connection with the university, but the regents did not favor the proposal. At the 1868 meeting, the Leavenworth Medical Herald, evidently the first medical journal in the state, was selected as the official journal of the society. At this same meeting the presidential address was devoted largely to the question of preventive medicine.

Problems discussed at these early meetings were quite similar to those engaging the thought of similar organizations today. Quackery was denounced, unethical and commercial methods condemned, and pleas made for a more scientific preparation for and approach

to medical practice. In support of these endeavors, the following resolution was offered by Doctor Root and passed at the annual meeting in 1867:

Resolved, That it is the high and solemn duty of each medical practitioner to instruct and protect humanity publicly, and privately, and especially to become, before the world, perfect patterns of physical and moral purity, and thus by combining precept and example, cause the human race to seek a higher sphere of usefulness and happiness.

This same question is discussed more at length in the presidential address of Dr. A. Newman at the annual meeting of the society, April 16, 1868:

Were I required to define the true physician in such a way as to distinguish him from all other species of the genus "doctor", my definition would be simply this: one whose chief aim is the elevation of the science, and the perfection of the art of medicine, and the alleviation and prevention of disease, with all its attendant train of frightful concomitants. He whose professional life does not approach this standard, whether he sails under the flag of a regular diploma, or under the flaunting colors of homeopath, hydropath or eclectic, lacks the essential attributes of a true physician, and is at best a charlatan and a hypocrite—an excrescence upon the professional body, and a parasite upon the body politic—who sees in the sufferings of others only the opportunity for his own selfish and pecuniary advancement, and who supplies society with nothing for which he does not demand and receive a full equivalent—often more.

In addition to Doctors Prentiss, Root, and Newman, the names of the following physicians are noted among medical leaders in the early days: Doctors J. B. Woodward, J. P. Robinson, J. B. Wheeler, M. Hartman, A. Fuller, and A. J. Ritchie.

There were in the state last year approximately 2,065 licensed physicians or one to each 900 of the population. As an annual registration law for physicians was put in effect in 1933, the exact number of physicians will hereafter be known.

POPULATION STATISTICS

According to the Federal Census for 1930, Kansas had a population of 1,880,999. Of this number 729,834, or 38.8 per cent, are classified as urban and 1,151,165, or 61.2 per cent, as rural.

More than 95 per cent of the population is white. There were 66,344 negroes, 3.5 per cent, and 2,454 Indians. The largest foreign group was Mexicans of which there were 19,150, or one per cent of the total population. Other foreign nationalities were negligible in numbers.

Table 1
Population of Kansas by Decades
1860-1930

Year	Population			Pop. per sq. mile	Pct. increase
	Total	Urban	Rural		
1860	107,206	.....	.....	.....	.....
1870	364,399	.....	.....	.....	239.9
1880	996,096	.....	.....	.....	173.4
1890	1,428,108	.....	.....	.....	43.4
1900	1,470,495	330,903	1,139,592	18.0	3.0
1910	1,690,949	493,790	1,197,159	20.7	15.0
1920	1,769,257	617,968	1,151,289	21.6	4.6
1930	1,880,999	729,834	1,151,165	23.0	6.3

Illiteracy in the state is very slight, but 1.2 per cent of the population ten years of age and over being recorded in this class.

As noted from Table 1, a large proportion of the population is rural. But two cities have more than 100,000 population each, two more a population of 25,000 to 100,000, 16 from 10,000 to 25,000, 12 from 5,000 to 10,000, and 30 from 2,500 to 5,000 each. Sixty-one per cent of the population live in communities of less than 2,500 inhabitants.

The sex distribution of the population is as follows: male 51 per cent, female 49 per cent. In the urban population females outnumber the males by one per cent, while in rural areas there are five per cent more males.

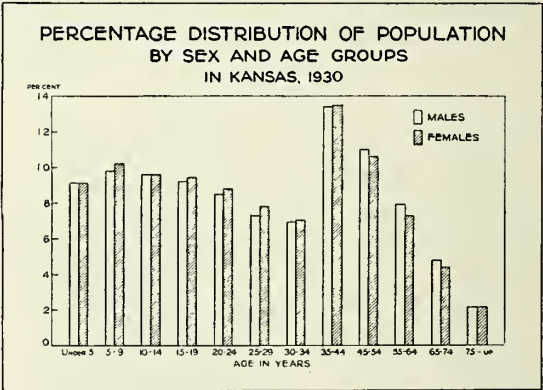


FIG. 1

Comparison of Kansas with several neighboring states on the percentage distribution of urban and rural population by sex is shown in Table 3.

A further analysis of the urban and rural population of Kansas by sex and age groups with age 30 the dividing line shows that the rural areas contain a larger proportion of both sexes in the

Table 2
Age and Sex Distribution of Kansas' Population—1930

Age groups	Total Pop.	Per cent total	Population	Male		Female		Per cent Female
				Total	Per cent Male	Population	Total	
Total	1,880,999	100.0	961,291	100.0	51.0	919,708	100.0	49.0
Under 5	171,094	9.1	87,221	9.1	9.1	83,873	9.1	9.1
5-9	190,343	10.1	96,882	10.1	9.8	93,521	10.2	10.2
10-14	181,034	9.6	92,134	9.6	9.6	88,900	9.7	9.6
15-19	174,573	9.3	87,971	9.2	9.2	86,602	9.4	9.4
20-24	162,439	8.6	81,183	8.4	8.5	81,256	8.8	8.8
25-29	140,513	7.5	69,771	7.3	7.3	70,742	7.7	7.8
30-34	131,853	7.0	66,389	6.9	6.9	65,464	7.1	7.0
35-44	252,888	13.8	129,301	13.5	13.4	123,587	13.4	13.5
45-54	203,438	10.8	106,154	11.0	11.0	97,284	10.6	10.6
55-64	142,637	7.6	75,862	7.9	7.9	66,775	7.3	7.3
65-74	87,518	4.7	46,816	4.9	4.8	40,702	4.4	4.4
75-up	41,950	2.2	21,271	2.2	2.2	20,679	2.2	2.2
Unknown	719	.....	396	.....	.....	323	.....	.....

Table 3
Percentage Distribution of Urban and Rural Population by Sex in Certain States—1930

State	Total Per cent		Urban Per cent		Rural Per cent	
	Male	Female	Male	Female	Male	Female
Kansas	51.0	49.0	49.5	50.5	52.5	47.5
Iowa	50.7	49.3	48.8	51.2	52.1	47.9
Missouri ..	50.2	49.8	48.7	51.3	51.8	48.2
Nebraska ..	51.2	48.8	49.0	51.0	52.5	47.5

younger age group than do urban areas. These differences are brought out in Table 4 and Figure 2.

Table 4
Percentage Distribution of Rural and Urban Population by Sex and Age Groups Kansas—1930

Age	Rural			Urban			Total	
	Male	Fem.	Total	Male	Fem.	Total	Male	Fem.
Under 30...	54.5	56.5	55.4	52	52.7	52.3	53.6	55
Over 30...	45.5	43.5	44.6	48	47.3	47.7	46.4	45

The age distribution of the population of Kansas shows no marked difference from that of other states in this same geographic area. In keeping with the majority of other commonwealths and with the United States as a whole, the population of Kansas is consistently becoming an older population. In the last 20 years there has been an increase of six per cent in the population age 30 and above. Based on the 1930 census, this gives an actual increase of 112,860 individuals in the higher age group in 20 years.

PERCENTAGE DISTRIBUTION OF
RURAL AND URBAN POPULATION
BY SEX AND AGE GROUPS
IN KANSAS, 1930

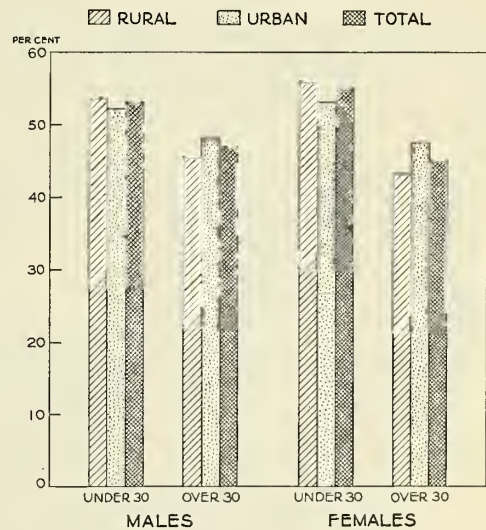


FIG. 2

This percentage change in various age groups is again demonstrated when the age distribution for 1930 is compared to the age distribution of the standard million population familiar to statisticians. In Table 6 comparison of the 1930 population of Kansas with the standard million distribution is shown. This comparison shows that up to age 35 the real population age grouping is below that of

Table 5
Percentage Distribution of Population by Age Groups—1910, 1920, 1930

Age group	United States			Kansas		
	1910	1920	1930	1910	1920	1930
Under 5.....	11.6	10.9	9.3	11.3	10.6	9.1
5- 9	10.6	10.8	10.3	10.5	10.5	10.1
10-14	9.9	10.1	9.8	10.0	10.1	9.6
15-19	9.9	8.9	9.4	10.1	9.2	9.3
20-24	9.8	8.8	8.9	9.9	8.7	8.6
25-29	8.9	8.6	8.0	8.5	8.2	7.5
30-34	7.6	7.6	7.4	7.2	7.4	7.0
35-44	12.7	13.4	14.0	11.9	12.8	13.4
45-54	9.1	10.0	10.6	9.1	9.8	10.8
55-64	5.5	6.2	6.8	6.1	6.7	7.6
65-74	3.0	3.3	3.8	3.7	4.0	4.7
75-up	1.1	1.3	1.6	1.4	1.9	2.2
Unknown ....	.2	.1	.1	.3	.2	....
Per cent 30 years and above.....	39.2	41.9	44.3	39.7	42.8	45.7

the standard million while the older age groups show a proportionate or larger increase.

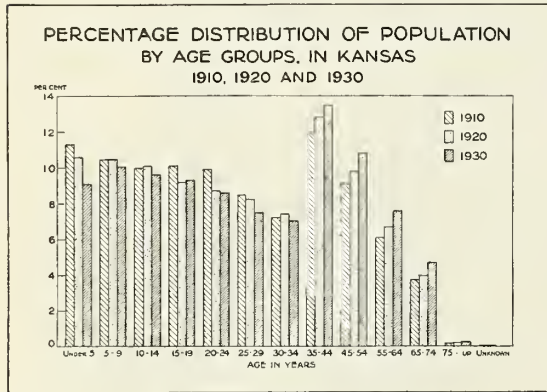


FIG. 3

Table 6
Age Distribution of Population of Kansas Compared to Standard Million Distribution—1930

Age groups	Standard million		Real population	
	Number	Per cent	Number	Per cent
Under 5	214,434	11.4	171,171	9.1
5- 9	201,267	10.7	189,981	10.1
10-14	193,743	10.3	180,576	9.6
15-19	188,099	10.0	174,933	9.3
20-24	180,576	9.6	161,766	8.6
25-34	304,722	16.2	272,745	14.5
35-44	231,363	12.3	252,054	13.4
45-54	167,409	8.9	203,148	10.8
55-64	112,860	6.0	142,956	7.6
65-74	62,073	3.3	88,407	4.7
75-up	24,453	1.3	43,262	2.2

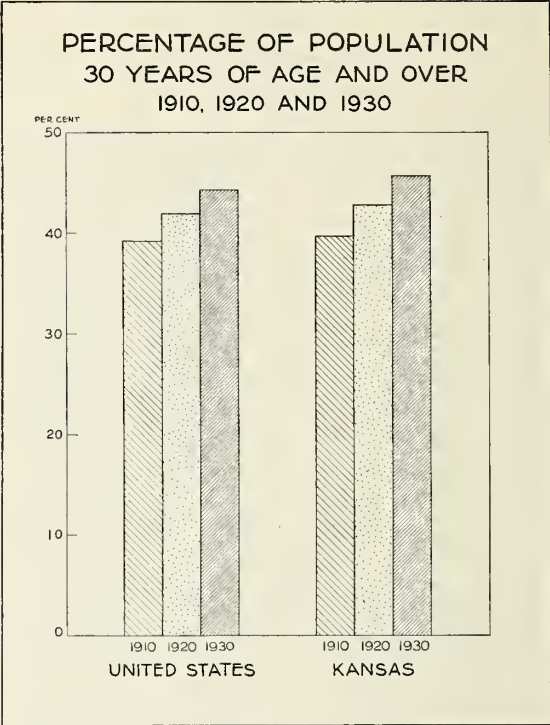


FIG. 4

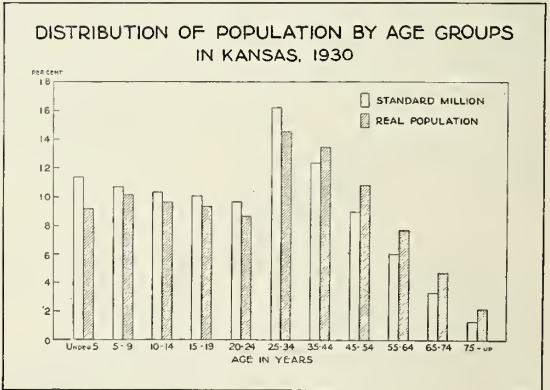


FIG. 5

CANCER STATISTICS*

Since 1927 cancer has occupied second place as a cause of death in the registration area of the United States. Table 7, from the Bureau of the Census shows the number of deaths in the United States for 1930 due to the leading causes of death.

Deaths from cancer and the percentage of all deaths represented by cancer is increasing throughout the United States is shown in Table 8.

*The term "cancer" as used in this report includes all forms of malignancy.

Table 7

Principal Causes of Death in United States Registration Area For 1930

Disease	Number deaths
Heart disease	253,084
Cancer	115,265
Nephritis	107,619
Cerebral hemorrhage	100,646
Pneumonia	98,657
Tuberculosis	84,741

Table 8

Cancer Deaths in Registration Area and Percentage of all Deaths Represented by Cancer—1920-1930

Year	Number of cancer deaths	Percentage of all deaths
1920	71,756	6.4
1921	75,113	7.4
1922	78,355	7.5
1923	81,505	7.3
1924	85,241	7.9
1925	88,623	8.0
1926	92,500	7.9
1927	95,103	8.6
1928	99,000	8.3
1929	111,562	8.0
1930	115,265	8.6

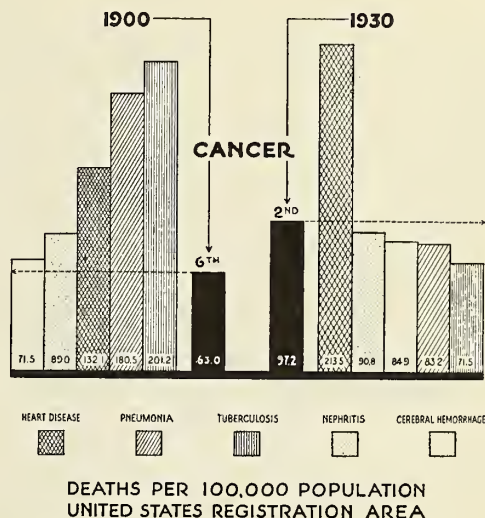
CANCER NOW RANKS SECOND AS CAUSE OF DEATHAmerican Society for
the Control of Cancer

FIG. 6

Heart disease and cancer are the two diseases showing most alarming increase in death rate throughout the United States. There is a slight increase in the

CANCER AND OTHER MALIGNANT TUMORS

CRUDE DEATH RATES PER 100,000 POPULATION, 1930

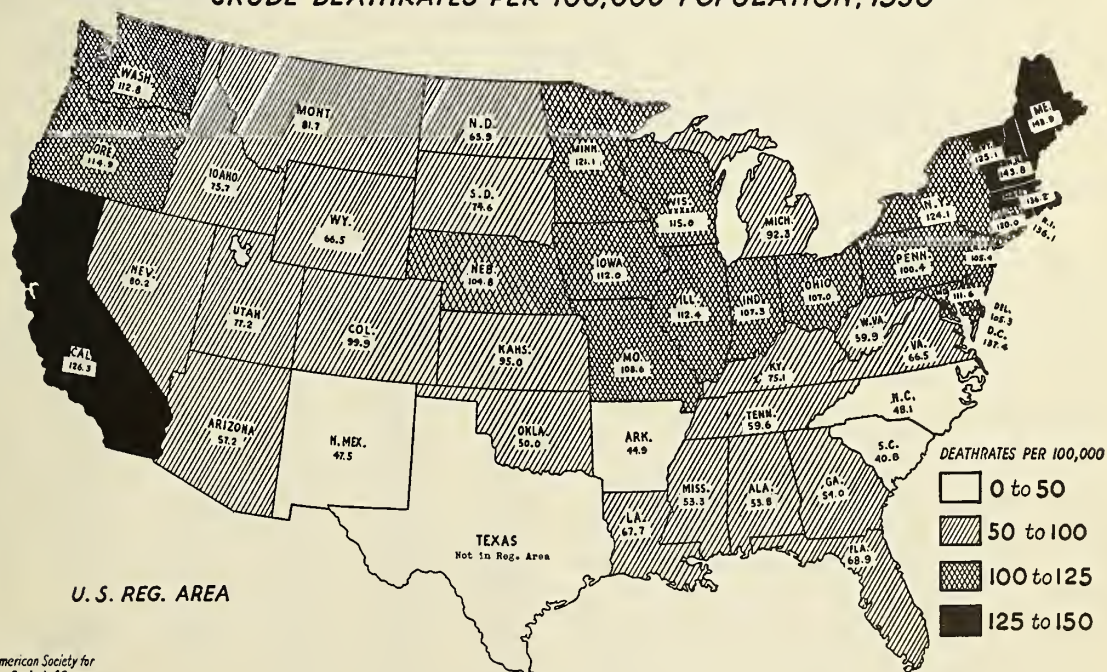
American Society for
the Control of Cancer
CHART # 14

FIG. 7

Table 9

Death Rates For Cancer and Other Leading Causes of Death per 100,000 Population
1920-1930*

	UNITED STATES REGISTRATION AREA										
	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Heart Disease.....	159.3	157.1	165.7	175.3	178.1	185.5	199.1	195.7	208.3	210.9	213.5
Cancer.....	83.4	86.0	86.8	89.4	91.9	92.6	94.9	95.6	96.1	95.9	97.2
Nephritis.....	89.4	85.4	88.5	90.1	89.6	96.4	98.3	92.4	95.3	91.2	90.8
Cerebral hemorrhage and softening.....	86.0	83.6	86.0	90.5	92.7	84.4	86.3	84.0	87.2	86.1	84.9
Pneumonia.....	137.0	88.2	102.1	109.0	98.2	93.5	102.5	80.6	98.2	91.7	83.2
Tuberculosis.....	114.2	99.4	97.0	93.5	90.4	86.6	87.1	80.8	79.4	76.0	71.5

*United States Mortality Statistics.

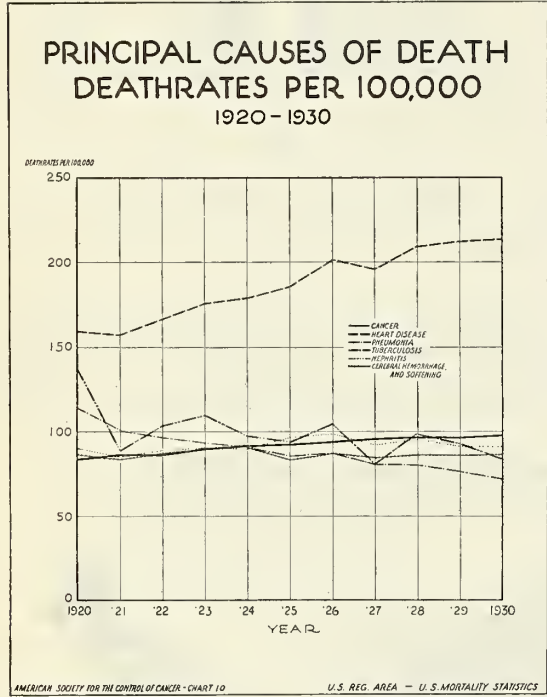


FIG. 8

death rate from nephritis and a marked decrease in the rates for pneumonia and tuberculosis. Table 9 and Figure 8 give these rates for the registration area of the United States for the period 1920 to 1930 inclusive.

In keeping with experience in other states and other countries, the number of cancer deaths in Kansas has shown a steady and marked increase, much greater than the increase either in the population as a whole or in that portion of the population in the cancer age period, age 30 and above. In 1913 the cancer death rate in Kansas was 57.8 per 100,000. In 1932 it was 105.7 per 100,000. During the

period 1910 to 1930 there was an increase in total population of 10.9 per cent and an increase of six per cent in the population 30 years of age and above. During the period 1913 to 1932 cancer deaths increased 105 per cent and the cancer death rate increased 82 per cent. It is thus seen that the cancer death rate increased more than seven times as much as did the total population in this period and more than 13 times as much as did that portion of the population, age 30 and above, during this same period. Table 10 shows these death rates in comparison with those of the United States registration area.

Rates noted in Table 10 are crude rates. Adjusted rates show but slight change, and for purposes of this survey are not so significant as are the crude

Table 10

Total Deaths, Cancer Deaths, Death Rates and Percentage of all Deaths Represented by Cancer, Kansas—1913-1932

Year	Total No. deaths	Cancer deaths	Pct. cancer deaths	Death rate, Kansas	Death rate, U. S. reg. area
1913	17,861	975	5.5	57.8	79.0
1914	17,497	1,059	6.1	63.3	79.6
1915	17,961	1,111	6.2	66.4	81.4
1916	20,053	1,220	6.1	71.1	82.1
1917	20,880	1,224	6.0	73.0	80.3
1918	26,508	1,267	4.8	69.7	80.5
1919	19,247	1,228	6.4	72.8	83.4
1920	20,306	1,297	7.7	77.8	86.0
1921	18,244	1,408	7.5	77.9	86.8
1922	19,872	1,461	7.4	80.1	89.4
1923	17,863	1,390	7.8	75.8	91.9
1924	18,694	1,529	8.3	84.3	92.6
1925	19,198	1,674	8.7	91.8	94.9
1926	18,596	1,839	9.9	100.1	95.6
1927	20,917	1,846	9.2	100.4	96.1
1928	19,448	1,739	9.0	93.8	96.0
1929	19,583	1,818	9.3	96.5	97.2
1931	18,648	1,853	10.0	98.0	99.1
1932	19,531	2,003	10.2	105.7	102.2

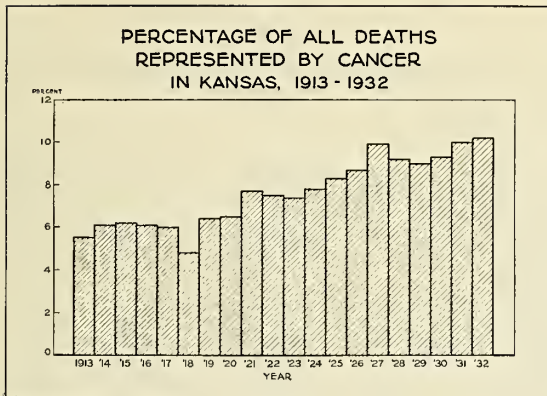


FIG. 9

rates which show a more accurate picture of the number of cancer cases treated in the community. Although some of these cases may reside outside of Kansas, the professional and hospital facilities of the state are called upon for treatment and such cases properly form part of the load carried by the cancer treatment facilities of the state.

While the general death rate has declined during the period covered by the

preceding table, a marked rise has taken place in both the number of deaths and the death rate from malignant disease.

These statistics would indicate an actual increase in the incidence of cancer independent of the increasing percentage of population now found in the cancer age group and of other factors which may influence the situation. The actual increase in cancer was discussed by the Bureau of the Census in its report "Mortality Rates 1910-1920". On page 80 of this report it is stated that:

The contention that cancer is not actually, but only apparently increasing seems no longer tenable. Better diagnoses undoubtedly account for part of the increase shown, but not for all of it. Figures for England and Wales, compiled by Doctor T. H. C. Stevenson, and published by the Registrar-General's report for 1917, clearly established an actual increase in mortality from cancer of accessible sites and our own figures presented in 1920 Mortality Statistics confirmed Doctor Stevenson's findings. For example, for females in the registration states of 1900, the 1900 adjusted death rate from cancer of the breast per 100,000 population female was 9.2 and the 1920 adjusted rate was 16.9, an increase of 84 per cent. For a site so accessible, it is inconceivable that the difference in the above rates could possibly be due to difference in diagnostic power.

CANCER DEATHS BY SITE OF LESION IN KANSAS, 1932

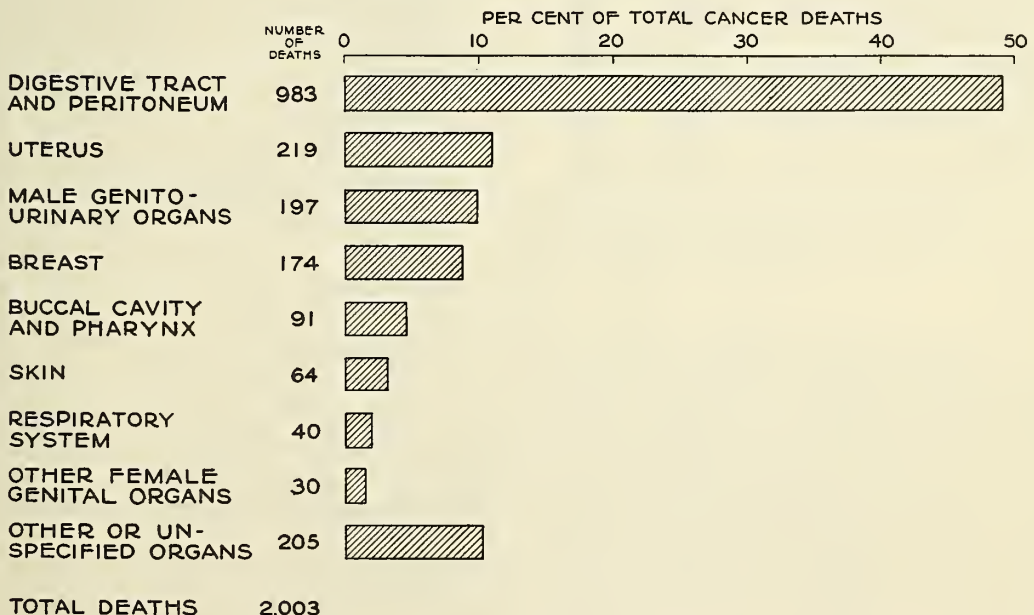


FIG. 10

Figures for cancer of the buccal cavity, similar to those quoted above for cancer of the breast, show that in 1900 in the United States registration area, the death rate for buccal cancer was 1.6. By 1910 this had increased to 3.1, by 1920 to 3.5, near which figure it has since remained. Cancer of the buccal cavity always has been easily accessible and the increase noted cannot be explained entirely on the basis of improvement in diagnosis.

Cancer deaths in Kansas in 1932 as shown in Table 11 by site of lesion indicates the important place held by cancer of the digestive tract and peritoneum, 49 per cent of all cancer deaths being reported from this region. This is slightly higher than figures for the United States registration area, 47.1 per cent for the year 1930. Importance of the reproductive system as a site of cancer in both sexes is also noted in this table, these sites accounting for 22.5 per cent of all deaths.

Table 11
Cancer Deaths by Site of Lesion, Kansas 1932

Site	Number deaths	Per cent
Buccal cavity and pharynx	91	4.5
Digestive tract and peritoneum.....	983	49.0
Respiratory system	40	2.0
Uterus	219	11.0
Other female genital organs.....	30	1.5
Breast	174	9.0
Male genito-urinary organs	197	10.0
Skin	64	3.0
Unspecified	205	10.0

Analysis of the 1932 cancer deaths in Kansas by age and sex is given in Table 12.

Analysis of the mortality statistics of the principal causes of death in Kansas for 1932 shows that cancer was exceeded only by heart disease. It caused nearly a third more deaths than did accidents and 2.5 times as many deaths as occurred from the reportable diseases of the state, excluding pneumonia. Every tenth death in Kansas in 1932 was from cancer. Measured in relation to the passing of time during this year, there was a death from cancer in Kansas every 4.37 hours.

Table 12
Cancer Deaths by Age and Sex, Kansas 1932

Age group	Cancer Deaths		Total	Per cent of cancer deaths
	Male	Female		
Under 5	4	.....	4	.02
5- 9	2	1	3	.02
10-14	1	3	4	.02
15-19	7	2	9	.5
20-24	5	5	10	.5
25-29	7	7	14	.7
30-34	13	14	27	1.4
35-39	9	27	36	1.8
40-44	24	73	97	4.8
45-49	33	87	120	6.0
50-59	149	223	372	18.5
60-69	246	238	484	24.2
70-79	309	272	581	29.0
80-89	125	101	226	11.3
90-99	5	11	16	.8
Total	939	1,064	2,003	100.0

Table 13
Twenty-five Principal Causes of Death in Kansas—1932

Cause	No. deaths
Chronic heart disease	2,828
Cancer	2,003
Cerebral hemorrhage	1,863
Chronic nephritis	1,861
Accidents	1,420
Pneumonia	1,022
Influenza	813
Tuberculosis	622
Premature births	498
Senility	440
Diabetes	422
Suicides	351
Appendicitis	335
Arteriosclerosis	303
Angina pectoris	297
Diarrhea and enteritis	238
Diseases of coronary arteries	228
Congenital malformations	199
Maternal deaths	172
Homicides	146
Syphilis	136
Injury at birth	133
Diseases of prostate	127
Anemia	121
Ulcer of stomach	101

A study of Table 13 shows clearly the place occupied by cancer as a cause of death in Kansas. It caused 12 per cent of the deaths due to the 25 leading causes of death in 1932.

Table 14 lists the deaths from reportable diseases in Kansas during the 8-year period 1925 to 1932 inclusive. If pneumonia is excluded from this list,

CANCER DEATHS BY SEX AND AGE GROUPS IN KANSAS, 1932

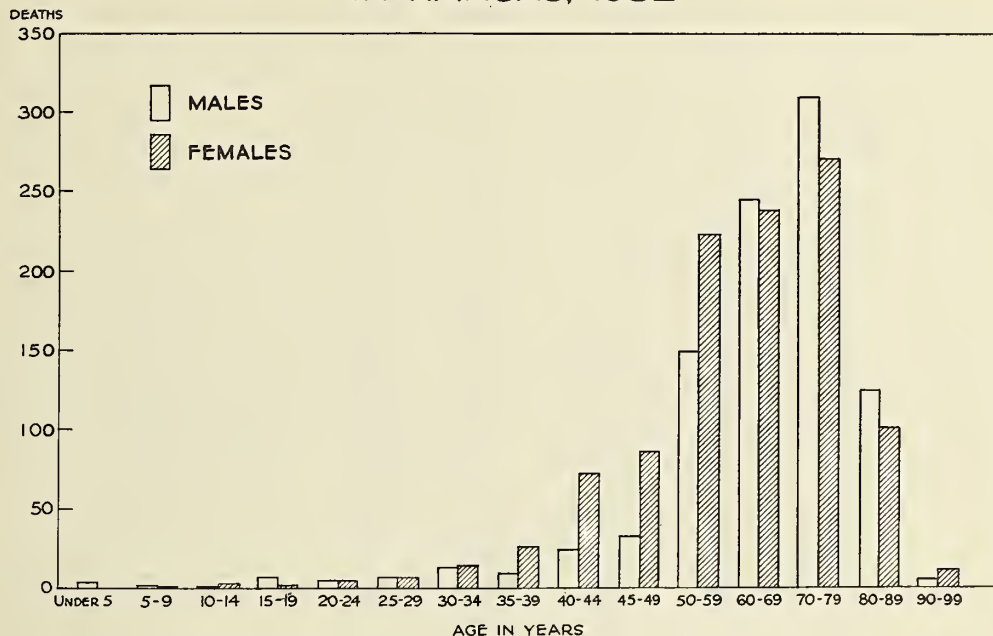


FIG. 11

as it is in many other states, deaths from the remaining diseases in the group in no year of this period approach more nearly than 71 per cent to the deaths from cancer. For the full 8-year period, the number of deaths from reportable diseases, excluding pneumonia, was only 57 per cent of the deaths from cancer. During this period there were more deaths from cancer than there were people living in the city of Emporia

in 1930. But 44 of the 105 counties in the state contain more people each than died from cancer in the last eight years.

The major activities of official health agencies are directed toward prevention and control of those diseases listed in Table 14 whose combined mortality is less than that of cancer. Occurrence of a comparatively few cases of any of these diseases at once sets in motion all the power and authority of health depart-

Table 14

Deaths From Reportable Diseases and Cancer, Kansas—1925-1932

Disease	1925	1926	1927	1928	1929	1930	1931	1932	Total 8 years
Diphtheria.....	71	49	75	61	68	67	68	75	534
Infantile paralysis.....	36	20	49	9	10	68	12	11	215
Measles.....	4	86	83	17	45	80	8	25	348
Pneumonia.....	1,196	1,079	934	1,257	1,083	1,044	975	1,022	8,590
Scarlet fever.....	35	34	72	50	61	45	23	32	352
Smallpox.....	1	2	1	6	2	6	7	.....	25
Tuberculosis.....	779	747	645	745	709	693	700	622	5,640
Typhoid fever.....	101	82	65	45	53	57	41	31	476
Whooping cough.....	67	119	61	93	75	66	24	47	552
Total.....	2,290	2,219	1,985	2,283	2,106	2,126	1,858	1,865	16,732
CANCER.....	1,529	1,674	1,839	1,846	1,739	1,818	1,853	2,003	14,301

ments for their control. If necessary, emergency funds are requested with which to hold the disease in check. On the other hand, no official cognizance is taken of the presence of cancer, one of the most lethal of all diseases, and no portion of the budget of any health department in Kansas is directed specifically toward its prevention and control. This statement is not made in criticism of activities directed effectively toward the control of common epidemic diseases which would cause much suffering and some loss of life if they assumed epidemic proportions, but rather to emphasize the importance of cancer as a lethal disease and as a heavy drain on the social and economic life of the community. The effectiveness of the control of com-

municable diseases by the State Department of Health of Kansas is ably attested by the small number of deaths from those diseases listed in the previous table. The feeling of hopelessness about cancer which has so long pervaded all classes of society has had more to do with the neglect of this question by official health agencies than has the indifference or lack of interest of such organizations and their responsible officers.

Measures so far developed for controlling cancer equal in no degree those found effective against the common communicable diseases. The unknown etiology of cancer furnishes the major reason for this lack of control. The cancer problem has not yet been dramatized sufficiently to bring it to the attention of the com-

Table 15
Population, Cancer Deaths, Number Licensed Physicians, and Ratio to Population, Kansas—1932

County	Population 1930	Per cent population 30 and over	No. Cancer deaths 1932	Number living cases*	Number licensed physicians	Cancer cases per physician	Ratio physicians to population
Allen.....	21,391	50.0	28	84	22	4	970
Anderson.....	13,355	47.6	9	27	15	2	895
Atchison	23,945	50.0	21	63	25	3	960
Barber.....	10,178	42.2	12	36	9	4	1,130
Barton.....	19,776	41.5	20	60	17	3	1,175
Bourbon.....	22,386	48.6	23	69	24	3	950
Brown.....	20,553	46.4	15	45	20	2	1,000
Butler.....	35,904	43.6	31	93	30	3	1,200
Chase.....	6,952	45.3	4	12	6	2	1,160
Chautauqua.....	10,352	45.1	12	36	9	4	1,040
Cherokee.....	31,457	44.1	27	81	33	3	955
Cheyenne.....	6,948	36.7	6	18	3	6	2,315
Clark.....	4,796	43.6	1	3	6	1	800
Clay.....	14,556	48.4	21	63	15	4	975
Cloud.....	18,006	46.8	29	87	26	3	690
Coffey.....	13,653	48.2	14	42	12	4	1,140
Comanche	5,238	40.2	2	6	5	1	1,050
Cowley.....	40,903	46.4	42	126	46	3	890
Crawford.....	49,329	47.1	54	162	63	3	780
Decatur.....	8,866	42.1	6	18	7	2	1,265
Dickinson	25,870	46.3	29	87	26	3	1,000
Doniphan.....	14,063	38.3	12	36	9	4	1,560
Douglas.....	25,143	51.0	44	132	52	3	480
Edwards.....	7,295	42.9	11	33	8	4	910
Elk.....	9,210	46.7	13	39	10	4	920
Ellis.....	15,907	32.5	19	57	11	5	1,450
Ellsworth.....	10,132	44.0	10	30	9	3	1,125
Finney.....	11,014	40.0	7	21	8	3	1,375
Ford.....	20,647	41.4	16	48	18	3	1,120
Franklin.....	22,024	50.0	28	84	28	3	790
Geary.....	14,366	42.1	16	48	22	2	650
Gove.....	5,643	35.5	1	3	2	1	2,820
Graham.....	7,772	38.1	4	12	3	4	2,590
Grant.....	3,092	34.9	2	6	2	3	1,545
Gray.....	6,211	35.3	5	15	14	1	445
Greeley.....	1,712	38.0	1	3	1	3	1,710
Greenwood.....	19,235	43.0	19	57	16	4	1,200

County	Population 1930	Per cent population 30 and over	No. Cancer deaths 1932	Number living cases*	Number licensed physicians	Cancer cases per physician	Ratio physicians to population
Hamilton.....	3,328	39.4	3	9	3	3	1,110
Harper.....	12,823	44.6	16	48	11	4	1,165
Harvey.....	22,120	45.7	36	108	43	3	510
Haskell.....	2,805	35.5	0	0	2	0	1,400
Hodgeman.....	4,157	39.4	0	0	2	0	2,075
Jackson.....	14,776	48.8	17	51	10	5	1,475
Jefferson.....	14,129	48.3	15	45	13	4	1,060
Jewell.....	14,462	46.9	16	48	13	4	1,110
Johnson.....	27,129	49.6	18	54	25	2	1,070
Kearny.....	3,196	39.1	0	0	1	0	3,200
Kingman.....	11,674	42.8	8	24	10	2	1,165
Kiowa.....	6,035	40.1	4	12	2	6	3,020
Labette.....	31,546	48.9	35	105	43	3	730
Lane.....	3,372	39.1	2	6	3	2	1,125
Leavenworth.....	42,675	56.2	41	123	62	2	690
Lincoln.....	9,707	43.2	13	39	8	5	1,210
Linn.....	13,534	48.3	11	33	7	5	1,935
Logan.....	4,145	40.5	2	6	3	2	1,380
Lyon.....	29,240	47.3	22	66	34	2	860
Marion.....	20,739	43.2	23	69	20	3	1,000
Marshall.....	23,056	45.9	26	78	19	4	1,200
McPherson.....	23,588	44.9	29	87	23	4	1,000
Meade.....	6,858	37.2	2	6	6	1	1,145
Miami.....	21,243	51.8	29	87	23	4	925
Mitchell.....	12,774	46.0	16	48	15	3	855
Montgomery.....	51,411	46.7	49	147	60	2	860
Morris.....	11,859	45.9	8	24	14	2	850
Morton.....	4,092	37.9	1	3	5	1	820
Nemaha.....	18,342	43.2	20	60	19	3	965
Neosho.....	22,665	47.6	20	60	18	3	1,260
Ness.....	8,358	37.0	10	30	6	5	1,395
Norton.....	11,701	43.6	12	36	13	3	900
Osage.....	17,538	49.6	20	60	17	3	1,000
Osborne.....	11,568	44.5	12	36	7	5	1,650
Ottawa.....	9,819	49.3	5	15	9	2	1,090
Pawnee.....	10,510	47.0	13	39	10	4	1,050
Phillips.....	12,159	44.7	4	12	8	1	1,520
Pottawatomie.....	15,862	45.3	9	27	15	2	1,060
Pratt.....	13,312	42.8	7	21	8	3	1,665
Rawlins.....	7,362	39.2	6	18	5	3	1,450
Reno.....	47,785	44.3	60	180	47	4	1,010
Republic.....	14,745	47.5	19	57	11	5	1,340
Rice.....	13,800	47.2	19	57	16	4	860
Riley.....	19,882	47.7	22	66	24	3	830
Rooks.....	9,534	42.3	6	18	6	3	1,590
Rush.....	9,093	38.3	6	18	8	2	1,140
Russell.....	11,045	41.9	3	9	8	1	1,380
Saline.....	29,337	46.4	40	120	38	3	770
Scott.....	3,976	40.0	5	15	4	4	995
Sedgwick.....	136,330	46.5	188	564	201	3	680
Seward.....	8,075	38.8	13	39	12	3	675
Shawnee.....	85,200	49.9	133	399	135	3	630
Sheridan.....	6,038	37.6	4	12	3	4	2,010
Sherman.....	7,400	41.5	4	12	5	2	1,480
Smith.....	13,545	45.6	9	27	10	3	1,355
Stafford.....	10,460	42.8	14	42	11	4	950
Stanton.....	2,152	35.2	0	0	2	0	1,075
Stevens.....	4,655	36.0	3	9	1	9	4,655
Sumner.....	28,960	45.8	30	90	35	3	830
Thomas.....	7,334	40.3	7	21	6	3	1,220
Trego.....	6,470	36.4	4	12	4	3	1,620
Wabaunsee.....	10,830	46.3	9	27	11	3	985
Wallace.....	2,882	38.4	2	6	2	3	1,440
Washington.....	17,112	45.7	10	30	16	2	1,055
Wichita.....	2,579	38.3	0	0	2	0	1,290
Wilson.....	18,646	45.8	16	48	18	3	1,030
Woodson.....	8,526	47.3	12	36	8	4	1,065
Wyandotte.....	141,211	46.3	171	513	174	3	810
Total.....			2,003	6,009	2,065	3	910

*Estimated at three for each death.

munity and to arouse much sentimental appeal in the public mind. Nevertheless there should be a strong appeal to the public in behalf of cancer sufferers, regardless of their age, in addition to the weighty economic problems involved. Cancer of the bone is found primarily in children and usually of a painful and fatal type, or at least results in amputation of the affected part with permanent disability. In adults, cancer too often strikes at the most productive period of life when physical and mental efficiency are at their peak. No age is immune and the suffering from this disease, especially in its later stages, is so appalling that practical measures for its control should merit the sympathetic cooperation of all classes of society.

County Distribution: In the last analysis, prevention and control of cancer devolve in large measure upon communities in which cancer patients live. The medical profession should have at its command the latest and most definite information on community aspects of the problem in order to formulate its program of cancer activities. Should the time come when state and local governments take an active part in this work, it would be necessary to have available to local communities fairly definite information on the problem.

Table 15 shows some important facts about cancer in Kansas based on the county as a unit. The percentage of population 30 years of age and over, number of cancer deaths, number of licensed physicians, and ratio of physicians to population have been calculated for each county. The number of living cancer cases has been estimated at three for each death and as the number of deaths approximates the number of licensed physicians in the state; this calculation also gives an average of three cancer patients per physician. Population figures used are those of the 1930 census, while the number of cancer deaths and number of licensed physicians refer to 1932. Strictly speaking data for the two years are not comparable, but for purposes of this report are considered sufficiently accurate.

(Continued in August Journal)

PROCEEDINGS OF SEVENTY-SIXTH ANNUAL MEETING

(Continued)

Sixth District: In general, the members of the county medical societies in the Sixth District are taking an increased interest in medical society affairs.

Comanche County has organized a county society and secured its charter at the recent Council meeting.

The Butler-Greenwood Society has been a very active organization and is an example of what may be done by an active county society in the promotion of better spirit and in the promotion of the professional welfare of its members by coordinated work. They have not only actively sponsored the Public Health Council of Kansas, but in addition have worked out very satisfactory arrangements with their county commissioners for the care of the indigent in their counties.

The Sumner County Society and the Cowley County Society have been active and meeting regularly.

There are three counties in the Sixth District whose medical societies have not been very active. Barber County has no society and the Kingman and Harper County Societies have not met regularly. These three counties are adjoining counties and I believe it is possible that some form of a tri-county organization might be worked out that would give them excellent meetings and be of advantage to all concerned.

The Sedgwick County Society has been functioning well under its full-time Executive Secretary.

HENRY N. TIEN, M.D.

Seventh District: Cloud County has reorganized their county society within the past year; I am told, however, that they do not have very regular meetings. This is most unfortunate and to be regretted, especially so since Cloud County has one of the strongest and most outstanding bunch of medical men in the state. This seems, however, to apply individually rather than collectively. For some reason

(Continued on Page 273)

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

ASSOCIATE EDITORS—R. T. NICHOLS, L. F. BARNEY, E. C. DUNCAN, O. P. DAVIS, J. T. AXTELL, H. N. TIHEN, C. C. STILLMAN, ALFRED O'DONNELL, H. O. HARDESTY, C. D. BLAKE, C. H. EWING, N. E. MELENCAMP.

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The Journal of the Kansas Medical Society is not responsible for statements, methods or conclusions presented in any article other than by the editorial staff.

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EDITORIAL

RECIPROCATE

During the 12 months period ending April 30, 1934, commercial advertisers invested a total of \$3,748.21 in the JOURNAL of the Kansas Medical Society. The term "invested" is used because the advertisers considered the members of the society were interested in their products and such advertising would increase their business. The advertisers reasoned correctly; they had the right to believe the readers would use their products for only announcements of ethical manufacturers and distributors are accepted.

The JOURNAL management is of the opinion its readers should patronize the advertisers. It costs the physician but a

few cents to mail postcards requesting samples or literature; by this means the advertisers know the readers are interested in their products.

Advertising is necessary to the success of any publication. During the past three years because of the depression many firms necessarily have had to curtail their advertising. In recent months, however, many firms have initiated new advertising programs, or increased the amount of space already being used. Just recently, the JOURNAL has received notice that Chesterfield cigarettes will continue their contract through the year 1934. The first of a series of 12 announcements by the Balyeat Clinic appeared in the June number.

Every reader should feel it is his duty to patronize those firms which patronize the JOURNAL—to *reciprocate*. With sufficient advertising it would eventually be possible for the JOURNAL to become self-supporting. If you have not been reading the advertisements, start with this issue.

CANCER SURVEY

The increase in the deaths from cancer compared to the decline in the deaths from communicable diseases has shown the necessity for making definite plans for the control of this menace to human life. In recent years cancer has ranked as the second most important cause of death in Kansas, being exceeded in total numbers only by heart disease. In each of the years 1932 and 1933, more than 2,000 cancer deaths were recorded, the death rates being 105.7 and 108.6, respectively.

At the 1933 meeting of the Kansas Medical Society in Lawrence following a recommendation of the Cancer Committee, the House of Delegates invited the American Society for the Control of Cancer to make a cancer survey in Kansas. This invitation was supplemented by invitations from the Kansas Hospital Association by its Executive Committee and the Kansas

State Board of Health. In accordance with the request, the survey was made and the report prepared by F. L. Rector, M.D., Field Representative of the Cancer Society. Some of the material included in the report was secured by correspondence; personal visitation by Dr. Rector with physicians, representatives of local medical societies and with hospitals was necessary to secure other data.

Copies of the report were forwarded to officers of the state society and the members of the Cancer Committee a few weeks before the annual meeting. The completed report was presented to the House of Delegates at the annual meeting in Wichita. Due to the fact that the report is composed of some 90 pages, in addition to a number of graphs, the House of Delegates received the report, but did not formally accept it, although ordering it printed in the JOURNAL. In this way, every member of the society will have the opportunity to carefully study the report, and it will be brought before the House of Delegates for final consideration at the 1935 meeting to be held in Salina.

The report is very comprehensive. Included in the introduction is a brief historical sketch of Kansas and the Kansas Medical Society, and a population review of the state. There is a summary of the deaths from cancer by sites of the lesion and comparison of cancer deaths with deaths from other causes. Much information is given in regard to hospitals, especially concerning facilities for the diagnosis and treatment of cancer cases.

Twenty-one recommendations are made which the Cancer Committee approve in principle, but are of the opinion some of them should be modified. The Cancer Committee stated in its report: "We have noted in Kansas, during the past years, a definite de-centralization of the practice of medicine and we feel that the diagnosis

and treatment of cancer should likewise be de-centralized in-so-far as it is possible to do so. We recommend instead of the establishment of a few Cancer Centers, that numerous ones be established."

The Cancer Committee especially commended the proposed program of "Tripartite Organization for Cancer Prevention and Control in Kansas." The organizations suggested include the Kansas Medical Society, the Kansas State Board of Health and the Kansas State Cancer Committee. The section of the report recommending this cooperative program states in part: ". . . This cooperative group could weld into a strong working organization the cancer control facilities of the state so that cancer patients would receive acceptable and adequate treatment in the earliest possible stage of the disease. This organized effort would offer an unexcelled opportunity for undergraduate and postgraduate education in cancer diagnosis and therapy. Its effective working would make unnecessary the entrance of any other agency into the field of cancer prevention and control in Kansas. . . ."

Another section of the report recommended the Cancer Committee should be "made a permanent committee with a minority of its members changing annually." The Cancer Committee approved this recommendation which in turn was approved by the House of Delegates. The motion as adopted provided for the enlargement of the present committee of five members to nine members; three to serve three years, three to serve two years, and three to serve one year. The personnel of the committee as announced by President Bowen includes: C. C. Nesselrode, Kansas City; J. L. Lattimore, Topeka, and F. Foncannon, Emporia (1936); H. L. Snyder, Winfield; F. R. Croson, Clay Center, and N. E. Melencamp, Dodge City, (1935), and J. G. Missildine, Wichita; M. B. Miller,

Topeka, and Alfred O'Donnell, Ellsworth, (1934).

Additional pages have been added to the JOURNAL which will result in early publication of the report, the first section appearing in this issue. The officers of the society and the members of the Cancer Committee request each member to carefully read the entire report and study it.

CORONARY THROMBOSIS

In the past nine years coronary disease deaths in Kansas have shown a more than 400 per cent increase. Seventy-six deaths were reported in 1925, as compared with 354 in 1933, the rates per 100,000 population being 4.1 and 18.6, respectively.

Although early investigators had reason to suspect coronary disease as a frequent cause of death, it is only within about the last 25 years that there has been a definite understanding of its pathology. Herrick, however, in a paper published in 1912, reported previously unknown facts concerning the disease. Despite the wealth of literature on the subject the disease even today apparently is frequently unrecognized.

Willius¹ is of the opinion that attention of the profession should be directed to the "alarming increase in coronary thrombosis and the necessity for its prompt recognition." He states that studies of the data for the Mayo Clinic shows an increase in incidence from .006 per cent in 1922, to an incidence of .300 per cent in 1933.

During the nine-year period 1925-1933, reports have been received of 1,362 deaths in Kansas from coronary disease; 756 deaths, or 55 per cent of the total number have occurred during the three years 1931, 1932 and 1933.

One thousand one hundred and thirty-nine deaths have been reported in the past six years. Thirty-five, or 4.4 per cent were under 40 years of age at the time of death.

Comparing the deaths by 10-year age groups during two three-year periods, 1928-1930 and 1931-1933, it is noted there has been an approximate two per cent increase in deaths among those under 50, and similar increases in the age groups 50 to 59 years and 80 to 89 years, in the second period. Decreases, consequently have occurred in the age groups 60 to 69 years and 70 to 79 years.

Sixty-eight and two tenths per cent of the deaths from coronary thrombosis reported since 1927, were of males.

Willius is of the further opinion: "When the incidence of any disease is on the upturn, its manifestations may be expected to become increasingly atypical. This condition exists today, and cases of coronary thrombosis are constantly being observed that in most respects depart widely from the classic description of the disease. Members of the medical profession must acquaint themselves with these facts in order to permit early recognition and to be in the position to give proper advice to the patient. Only too often the patient is said to have 'acute indigestion', and his physician permits him to return to his work after the pain of the attack has subsided. If treatment has any value whatsoever in this disease, absolute rest during the first five or six weeks largely determines the patient's chances for survival."

EDITORIAL COMMENT

Members of the Kansas Medical Society who have not paid their 1934 dues will not receive the July JOURNAL.

Gas gangrene antitoxin should be used in cases where the wound is contaminated with street or farm dirt, or the tissues are crushed.

Dr. James S. McLester, of Birmingham, Alabama, was named President-Elect of the American Medical Association at the Cleveland meeting.

1. Willius, Frederick A.: The Increasing Incidence of Heart Disease. Minn. Med., 27:355, June, 1934.

Forty-six Kansas physicians registered at the Eighty-Fifth Annual Meeting of the American Medical Association. The total registration for the four-day meeting was 6,111.

The American College of Physicians will hold its Nineteenth Annual Clinical Session in Philadelphia, April 29-May 3, 1935. Dr. Jonathan C. Meakins, of Montreal, Canada, is President of the College.

At the twentieth annual tournament of the American Medical Golfing Association held at the Mayfield Country Club, Cleveland, June 11, Dr. J. L. Lattimore of Topeka ranked third with a score of 160.

July 1 is the date for the annual registration of your certificate to practice medicine. If you have not received your notice, notify Dr. C. H. Ewing, Secretary of the Board of Medical Registration and Examination at Larned.

There are now 6,437 hospitals in the United States having a capacity of 1,027,046 beds and 52,464 bassinets. Last year there was an average of 216,775 idle beds. Total patient days in all hospitals numbered 259,748,915. (*J.A.M.A.*, March 31, 1934).

A new edition of the Merck Manual of Therapeutics and Materia Medica is announced by Merck and Company. Therapy in the new manual has been outlined by Dr. Bernard Fantus, Professor of Therapeutics, College of Medicine, at the University of Illinois.

The *New York State Journal of Medicine* comments editorially that Denmark has practically conquered syphilis. The active program for the control of the disease began in 1790. Treatment was made compulsory in 1874 and free treatment was made compulsory in 1906.

At a meeting in Chicago on February 11, a national advisory board for the medical specialties was organized, representing in its membership the several examining boards established in the fields of ophthalmology, otolaryngology, obstetrics and gynecology, and dermatology, as well as the National Board of Medical Examiners, the Association of American Medical Colleges, and the Federation of State Medical Boards. (*Federation Bulletin*, April, 1934).

Dearing and Rosenau have reported on the duration of immunity to smallpox as indicated by the results of vaccination as studied in 557 medical students who had previously been vaccinated and in nine who had never been vaccinated but had had smallpox. Of 337 students vaccinated ten years or less after previous vaccination, only one gave a primary take; 15, or 4.7 per cent, gave accelerated takes, and 321, or 95 per cent, an immediate reaction. Vaccination of the nine students who had had smallpox resulted in four primary takes. (*J.A.M.A.*, June 16, 1934).

No longer will the advertisements of ten manufacturing companies promise to make your teeth good as new in around 72 hours, or give you an item of jewelry absolutely free if you write and ask them for it, or put your entire digestive tract in perfect condition with one pill, or suggest that you'll make a sum in excess of what has been made by salespersons under normal conditions if you become the company's agent. Nor will certain of these companies offer to install household appliances on free trial when a deposit is required, nor declare that certain medicines are infallible. The ten companies signed last week agreements to discontinue unfair advertising practices banned by the Federal Trade Commission. (*The United States News*, May 21, 1934).

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

Gleanings From the Meeting of the American Society of Pathologists

Dr. R. R. Kracke, Emory, Georgia: Due to oxidization products following the use of the benzine containing drugs, such as allonal, amidopyrine and phenacetin, he was able to demonstrate a direct relationship of these drugs to a great number of granulopenias and suggested a very careful search into the history of each case. Dr. Kracke conducts a registry for odd blood diseases and will welcome slides and histories of these conditions.

Dr. W. B. Martin of Norfolk, Virginia: Treated three cases of severe granulopenia with intensive liver therapy and obtained satisfactory results.

Dr. F. J. Heck, Mayo Clinic: A study of various leukemias showing a definite wave period in such conditions as myelogenous leukemia; in some cases the total white count going as low as 700. In routine study of the differential slide, finding a definite increase in basophiles, give due thought to a developing myelogenous leukemia.

Dr. H. M. Bauks, Indianapolis, Indiana: Suggesting the severe hyperexia due to pyrogen as a possible use in the treatment of CNS Lues.

Dr. W. G. Exton, New York City: Proposing a sugar tolerance test to replace the one in common use at the present time. Dr. Exton's suggestion is the administration of 50 grams of glucose in 15 per cent solution; doing a blood sugar in 30 minutes, then administering 50 grams of glucose and a second blood sugar at the end of a second 30 minutes. The normal individual will show a rise at the end of the first 30 minute period but will definitely fall at the end of the second 30 minute period. A diabetic will show a steady line of increase in the blood sugar. The test offers a much more rapid test than the old four-hour period test.

Dr. C. J. Tripoli, New Orleans, Louisiana: Establishing a definite routine in the study of stools for ameba or their cysts. His routine is a study of the stool by direct slides, then the concentration method, then the staining methods by fixing in Schaudin's fluid and staining with hematoxylin and fourth, culture methods using liver agar and a media containing an egg basis.

Dr. H. A. Heise, Uniontown, Pennsylvania: The acceptance in court of the determination of parentage of a child by the use of blood groups. A child must belong to the group of either the father or mother. Where a man belongs to one group, the woman to another and the child to a third group, then the child is not the result of this union.

Dr. T. C. Terrell, Ft. Worth, Texas: In the North Texas Pasteur Institute, the adoption of treatment of rabies wounds by pouring 40 per cent formaldehyde into the wound instead of the older method of cauterization with fuming nitric acid.

Dr. A. G. Foord, Pasadena, California: Due to excessive rouleau formation on the routine differential slide (due to increased protein in blood) thinks a further study will often reveal a multiple myeloma.

Dr. Edwin E. Osgood, Portland, Oregon: The importance of doing the sternal puncture for obtaining bone marrow for study in differential diagnosis of blood dyscrasias, determining the activity of the bone marrow. He obtains from 1 to 10 cc. by this method with no apparent harmful results.

—————R—————

In memory of the late Hideyo Noguchi of the Rockefeller Institute, a hall will be built on the site of the cottage where he was born beside Lake Inawashiro in northeastern Japan. The committee in charge plans to collect 100,000 yen to erect the hall and to repair the old house where his parents and brothers and sisters lived. (Japanese correspondent, *J.A.M.A.*, June 16, 1934).

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

CHRONIC NERVOUS EXHAUSTION

These writers present a study of 235 cases who were re-examined at the Mayo Clinic, an average of six years after the original diagnosis of chronic nervous exhaustion had been made. Of this group they found 85 per cent of all patients studied did not have organic disease although this total number had undergone 286 separate operations of which tonsillectomies accounted for 74. There were 21 patients in a second group who had organic disease which was not considered responsible for the original symptoms and a smaller group of 14 patients comprising six per cent of the entire number studied, who were found, subsequent to the time of the original diagnosis, to have organic disease which appeared to explain at least in part the symptoms originally complained of. This is a rather laborious article on the part of internists to explain functional disease in terms of chronic nervous exhaustion. They seemed to have successfully proved there is a large number of patients who complain of only functional disease who continue indefinitely to complain of the same sort of disease and rather than go into the detail of the psychological factors are content to call it chronic nervous exhaustion.

A Justification of the Diagnosis of Chronic Nervous Exhaustion. Macy, John W., Allen, Edgar V. *Annals of Internal Medicine* 7:861-867. January 1934.

LOCAL TREATMENT OF ADVANCED PERIPHERAL VASCULAR DISEASE

The author reports the results of applying three therapeutic procedures, heat, desiccation and oxygen in the treatment of advanced peripheral vascular disease. Gradually developing organic occlusion of blood vessels may be compensated by the development of collateral circulation but the circulation to a diseased extremity may be suddenly diminished by thrombosis. In this case there is no compensation and a critical period of acute ischemia results, accompanied by pain, indolent ulcers or gangrene. This paper is con-

cerned with the avoidance of gangrene or the minimizing of the affected area until collateral circulation is established. In applying heat, the ordinary foot cradle is condemned as it is likely to overheat. A temperature of 30° C. to 34° C. is found optimum temperature for tissue function and is best accomplished by a thermo-regulated cradle.

Since oxygen can penetrate the skin, concentrated oxygen was applied locally to counteract diminished circulation. In some cases cyanosis disappeared and pain was relieved, but circulation was not improved. Desiccation of air in thermo-regulated foot cradles dried gangrenous areas and prevented infection in them. Of the 28 studied three patients died; two after having a functional restoration of their feet from 3 to 11 months relapsed and came to amputation. Two more cases had lesions return after initial recovery, but did well under a second period of treatment. In five cases in which competent surgeons deemed amputation inevitable, the patients regained use of their limbs. The method is offered as a supplement to other well organized means of treatment to avoid amputation.

On the Use of Heat Desiccation and Oxygen in the Local Treatment of Advanced Peripheral Vascular Disease. Starr, Isaac, Jr. *American Journal of Medical Sciences* 187:498-509. April, 1934.

HEPATITIS AND JAUNDICE IN ARTHRITIS

A number of patients suffering from chronic arthritis, fibrositis or sciatica experienced complete or partial relief from their pain coincident with the appearance of intrahepatic jaundice. In some cases the jaundice was induced by a drug, cinchophen, taken for the relief of a long standing pain, but in some cases it was not induced by a drug. Fourteen of the 16 cases observed and reported received partial, or more usually complete relief from pain for variable periods. Reduction of swelling of the joints also occurred. The author calls attention to the therapeutic implications, i.e. the use of bile salts in treating chronic pain as in rheumatism. He is now carrying on an experiment to determine the value of such therapeutic measures.

Hench, Philip S. The Analgesic Effect of Hepatitis and Jaundice in Chronic Arthritis, Fibrositis and Sciatic Pain. *Annals Int. Med.* 7, 1278-1294, April, 1934.

TUMORS OF THE SALIVARY GLANDS

A large number of the lesions of the face and neck are tumors of the salivary glands; the mixed cell variety is most common although primary carcinomas also occur. Theories concerning the pathogenesis of mixed tumors of the salivary glands are diverse but the most widely accepted idea is that they are of epithelial origin. Pathologically these tumors are divided grossly into two main groups depending on the predominance of the embryonal tissue. These tumors occur at all ages although most often in the fourth decade of life. The clinical course is usually characteristic; there is first a pea-shaped swelling near the gland but no pain; after many years there is increased activity. If the tumor is removed then it is usually found to be benign grossly and histologically; if incompletely removed there is usually a recurrence within a few months up to two years. *x*-Ray, radium and early removal offer the best hope of cure but prognosis, based on a study of the treatment of twenty-four cases is not good for either complete cure or prevention of recurrence. Moreover, following the removal of the original tumor the regrowth becomes more malignant.

Martin, J. D. and Elkin, Daniel C. Tumors of the Salivary Glands. *Arch. of Surgery* 28:727-741, (April) 1934.

FORTIFIED COD LIVER OIL

Cod liver oil and its concentrated forms have played an important role in the nutrition of infants. But like many other food substances they have at times been responsible for "upsets" in the allergic child, which manifest themselves in the form of vomiting, diarrhea, urticaria, eczema and asthma. Hence the authors have been searching for a substance that could be substituted for cod liver oil in the diets of those children whose food has been limited to a very small variety because of their allergic tendencies. Four cases are reported which serve as evidence that carotene concentrate fortified with vitamin D can be satisfactorily given allergic children who can not tolerate cod liver oil.

Balyeat, R. M., and Bowen, R. Cod Liver Oil Sensitivity in Children. *Am. J. of Diseases of Children*. 47, 529-532, (March) 1934.

Proceedings of Annual Meeting

(Continued from Page 266)

best known to themselves they seem not overly interested in an organization.

Clay County as usual has maintained an excellent and active society during the past year. By reason of two neighboring counties from which they drew members having reorganized their county societies, the membership of Clay County Medical Society has been cut down. This has meant less money to spend on programs so they have gone back to "home-talent" programs for the most part. And it has been amazing, so far, what excellent programs have been given. It is doubtful if the society, even though the membership might increase, ever goes back to the "all imported" programs again.

Mitchell County also has had a number of very good meetings, though their most excellent secretary did not get the report in in time to get into this report. Be it said, an unusual thing for Dr. Madtson. Probably the largest meeting of the year, a dinner-meeting, was held for the discussion of the FERA program. The county society did its part 100 per cent. The federal end of the thing seems, however, to have failed to function. The meeting was well attended and some from the neighboring counties were there. Dr. F. R. Croson of Clay Center outlined the FERA program as proposed by the federal authorities.

Osborne County—Their organization, while still maintained in good shape, has infrequent meetings. They had an excellent dinner-meeting in the late fall at which the attendance was unusually good. Here, also, the FERA was the topic for discussion and Dr. F. R. Croson was on the program. The society cooperated 100 per cent, "Did their part" and again the federal authorities have failed to function so far as heard.

Jewell County—So far as your Councilor is able to state, the Jewell County Medical Society is inactive. I have had no report. Some of the members were present at a Mitchell County meeting which I attended. The boys out there have been pretty badly hit by general financial conditions; but the ones seen

have their "heads up" and are ready.

Rooks County—The fellows have not reported as a county society organization. Crop and other adverse financial conditions also have kept them back; but those seen individually still have a courage that could well be emulated by those of us more favorably situated.

Republic County—They have been mighty quiet, and are therefore getting on extra well, one would assume, remembering the past. A written report failed to reach us. They have a good organization. I saw at least one of the old "stand bys" at the state meeting, Dr. C. V. Haggman of Scandia. There may have been others.

Washington County—The "baby organization" of our district. They are having most excellent and regular meetings of both home talent and imported programs. We have attended at least two or three of their meetings and they are all that county medical meetings could and should be and show plainly what a bit of cooperative enthusiasm and interest in our work can do.

C. C. STILLMAN, M.D.

Eighth District: I beg to submit the following report from the Eighth District comprised of the following counties: Saline, Ellsworth, Ottawa, Dickinson, and Lincoln.

Saline County Medical Society—Number of members, 30; Physicians in county, 37; Physicians in county eligible but not members, four. Meetings held monthly, society active.

Ellsworth County Medical Society—Number of members, eight; Physicians in county, eight; Physicians in county eligible but not members, none. Meetings held quarterly—Central Kansas Medical Society.

Ottawa County Medical Society—Physicians in county, six. Surrendered their charter in 1932, some of the members have affiliated with nearby medical societies.

Dickinson County Medical Society—Number of members, 21; Physicians in county, 22; Physicians in county eligible but not members, none. Meetings held third Thursday in January, April, July, and October.

Lincoln County Medical Society—Number of members, seven; Physicians in County, seven. Meetings held quarterly.

ALFRED O'DONNELL, M.D.

Ninth District: We have only one active medical society in the ninth district. It is the Norton-Decatur Medical Society. It is a good society and has called meetings which are always well attended.

The Smith County Society has been inactive for more than the past year. There is some talk of reorganization in this district so that all the counties will be included in one society to be known as The Northwest Kansas Medical Society. We believe this would be a very good society and be very beneficial to those counties of the district which do not have a county society at this time.

Respectfully submitted,

H. O. HARDESTY, M.D.

Tenth District: The tenth district is made up of eight counties and has one active medical society, The Central Kansas. The members of the society are not confined to the eight counties.

The meetings of the society are held quarterly and are usually at Hays or Ellsworth. We have had an occasional meeting at Russell. The hospitals at Hays and Ellsworth furnish the clinical material and the local doctors of Hays or Ellsworth provide the entertainment for the visiting doctors and their wives. The programs are practical and helpful with two or three guest speakers and one or two papers by members of the society.

No complaints have been registered with me this year and there has been few changes in location. Considering the depression, I think we should be congratulated that we have carried on as well as we have. I think I can safely say that the cash returns to the doctors of this district have been cut to 50 per cent if not more and I am quite sure the fees have been materially reduced by most doctors.

To all who have helped make the year what it has been, I wish to extend my thanks.

Respectfully submitted,

IVAN B. PARKER, M.D.

Eleventh District: This district includes ten counties extending from Barton County on the east to the Colorado line. On account of the sparse population half of these counties do not have enough doctors to form a society of their own.

There are four organized societies in the district. The Rush-Ness Society is active and meets monthly alternately at Rush and Ness counties.

Barton County is the largest and has held a number of excellent meetings at Great Bend during the past year to which were invited doctors from surrounding counties. The program of last meeting was put on by doctors from Wichita.

Pawnee County holds meetings at irregular periods only.

Recently Edwards County organized a society and was voted a charter at the Wichita meeting. In a check-up of the doctors of the district practically all are members of the society. Where unable to have a local society they are members of societies in adjoining counties.

C. H. EWING, M.D.

Twelfth District: During the past year I have had the pleasure of visiting most of the societies in the twelfth district and found them all in good working order. Times in this district are very bad just now with the lack of crops and not very much to look forward to. But the doctors are all looking forward to better things, "Hope springs eternal in the soul" of the Kansas doctor.

As Councilor I have not had any bad reports or anything to straighten out in the past year. We are all too busy trying to make ends meet in general. Fees have been voluntarily reduced in this district, but the quality of services rendered is up to standard, notwithstanding.

Respectfully submitted,

WM. F. FEE, M.D.

The two following reports submitted by the Medical Defense Board and their attorney were given to the secretary for publication in the minutes.

REPORT OF MEDICAL DEFENSE BOARD

The Medical Defense Board respectfully submits its report for the past year including that of its attorney which is to be considered a part of the Board's report.

It will be noted, on reading the attorney's summary of cases, that in the year just past there have been 14 new cases filed, which is the largest number ever filed in any one year since our defense system was inaugurated. During the year eight cases have been tried, all of which were decided in favor of the defendants. One other case was disposed of by the insurance carrier, associated with us in the case, making settlement with the plaintiff.

The large number of new cases filed the past year is probably explained by the financial extremity in which so many people find themselves. Money is so hard to get in the ordinary ways that it is not surprising that many try to get it by plucking the family doctor. And lawyers apparently are more willing than formerly to accept these cases, perhaps in the hope of thus mitigating hardships of their own. It may be expected that for some years to come we shall have an abnormally large number of cases to defend.

During the past year the total cost of medical defense has been \$2097.47, which is \$509.87 more than the cost of the preceding year. This is because we had twice as many cases tried in the past year. It must be remembered also that some cases cost us more to try than others, due to the greater distance from Topeka, greater duration of trial and greater expense of preparation for trial. In some cases, too, the plaintiff, by various legal devices, apparently does his best to put the defense to unusual and unnecessary expense, perhaps in the hope of thus procuring a proposition of compromise or settlement. We have stood, during all the years, against any such compromise or settlement. A large proportion of all the actions brought are to be considered blackmail, and we are of the belief that this kind of extortion can best be stopped by a persistent and vigorous defense, taking appeal to the court of last resort if necessary.

Our attorney has submitted, at our request, a summary of all the cases handled during the ten years of his service, giving the number of cases filed, year by year, together with the results of cases tried each year. It will be seen that we have lost three cases during the ten years, which, we believe, is not a bad showing, considering that in that time 99 cases have passed our hands. Of these 26 are still pending and of course we cannot at this time forecast their outcome. During the ten year period seven appeals have been made by plaintiffs to the Supreme Court and in no case has that court sustained the appeal.

We have found a good deal of satisfaction in this work. We have endeavored to be prompt in replying to all inquiries and to all applications for defense, and have tried to say and do everything possible to reassure our worried members who have been sued or threatened, giving them the confident promise of a vigorous, persistent and effective defense. We have had many letters from members who have been successfully defended, expressing their appreciation of our defense system. This should be very gratifying to every member of this society as well as to this board, for our small contribution each year makes this work possible.

This board wishes to make renewed acknowledgement of its appreciation of the services of our attorney, Hon. John Hamilton. His ability, courtesy and effective attention to our business are fully recognized and valued.

We subjoin a table, showing the expenditures of the Board, by years, for 20 years, which will perhaps be of interest.

DEFENSE BOARD EXPENDITURES—20 YEARS

1915	.....\$	1,254.95
1916	.....	1,189.27
1917	.....	777.45
1918	.....	809.58
1919	.....	759.41
1920	.....	1,245.51
1921	.....	1,458.35
1922	.....	1,236.08
1923	.....	1,310.96
1924	.....	1,479.76
1925	.....	1,970.05
1926	.....	2,008.13
1927	.....	1,981.03
1928	.....	1,949.02

1929	.....	2,279.43
1930	.....	1,549.54
1931	.....	1,759.86
1932	.....	1,812.84
1933	.....	1,583.60
1934	.....	2,093.47

Total 20 years\$30,508.28
Average per year\$ 1,525.41

Respectfully submitted,
O. P. DAVIS, M.D.

REPORT OF ATTORNEY MEDICAL DEFENSE BOARD

I am enclosing herewith the annual summary of cases which it has been my custom to furnish to your board as of the 1st of April in each year during the period which I have had the pleasure and honor to serve as your counsel.

The report this year shows 27 cases carried for your consideration. In the current year there have been 14 cases filed which is the largest number of cases ever filed in any single year since I have been associated with your body. During the year I have also disposed of nine, eight of which were tried, which is also the largest number of cases tried since I have been in your service. This latter figure probably is accounted for by the fact that I was ill a large part of the year 1933 and many of the cases were put over until the fall of that year or the spring of this, resulting in the trial of an abnormally larger group of cases than would ordinarily be expected.

I have no explanation as to the large increase in the number of cases filed, but it is noticeable that for some reason lawyers who heretofore would not bring malpractice cases are now more freely accepting them.

I am also enclosing in connection with this year's report and for your further information a summary of all of the cases which have been handled since my appointment as your attorney on May 1, 1924. At the time I took over this work there were 20 cases pending. Since that date 79 additional cases have passed through my hands, making a total of 99 cases in all. Of these cases 26 are still pending and, of course, no report can be made as to their disposition at this time. Of the remaining 73 cases 60 were actually tried to the court of which num-

ber 57 resulted in verdicts or judgments by the court for the defendant doctors and three resulted in verdicts for the plaintiff. Of these three cases one verdict was for \$5,000.00 and the others for \$1,000.00 each, making a total amount of \$7,000.00. Thirteen of the cases have been disposed of by the insurance carriers. This with the 26 cases now pending accounts for all of the cases which have been brought to my attention.

I have also to report that seven cases have been appealed by the plaintiffs to the Supreme Court of the State of Kansas and in no case has the appealing party prevailed in that court.

SUMMARY OF CASES MEDICAL DEFENSE BOARD

April 1, 1933 to April 1, 1934

1. Nash v. Mangan. Negligent failure to properly diagnose infection of jaw bone. Filed 6/30/28. Case dismissed for want of prosecution.

2. Smith v. Hedge. Failure to give proper treatment during pregnancy. Filed 6/28/29. Verdict for defendant.

3. Cooke v. J. C. Bunten. Failure to properly diagnose and treat fracture of left arm. Filed 2/21/30. Dismissed upon settlement by insurance carrier.

4. Murthe v. Armstrong, et al. Negligent failure to properly protect plaintiff during course of operation in which she received burns on feet. Filed 6/2/30. Plaintiff's motion to set aside verdict for defendant overruled.

5. Liebsch v. Miller and Kerr. Negligent removal of portion of uvula during tonsillectomy. Filed 10/10/30. Verdict for defendant.

6. Cloninger v. Rotter. Action for negligence in failure to remove drainage tubes. Filed 10/6/31. Defendant's demurrer sustained.

7. Buckner v. John Outland and H. W. Nye. Action for negligence in operating for hernia. Filed 9/24/31. Removal to Federal Court pending on preliminary motions.

8. Root v. G. M. Jaquiss et al. Action for negligently failing to treat hemorrhage caused by injury to leg. Filed 11/21/32. At issue.

9. Coulter v. Oscar Sharp and Ethel Sharp. Action for negligent use of ra-

dium in treating cancer of the womb. Filed 2/18/32. Defendant's demurrer sustained.

10. Evans v. Arthur E. Hertzler et al. Action for negligence in amputation cervix. Filed 4/8/32. Verdict for defendant pending on plaintiff's motion for new trial.

11. Van Nover v. Nodurfth. Action for negligence resulting in septicemia. Filed 6/22/32. Dismissed for want of prosecution.

12. Gooch v. K. Armand Fischer. Action for negligent treatment fracture of radius and dislocation of ulna. Filed 10/8/32. Verdict for defendant.

13. Marshall v. Armitage. Action for negligent failure to reduce fracture of left arm. Filed 12/6/32. Settled by insurance carrier.

14. Louder v. Hawley. Action for negligent treatment of fracture of forearm. Filed 4/8/33. Tried to jury. Upon trial jury unable to agree upon verdict.

15. Travis v. Bishoff. Action for negligence in operating for hernia. Filed 5/1/33. Defendant's demurrer to plaintiff's petition sustained.

16. Maine v. Hawkey. Action for negligence in treating fracture of forearm. Filed 5/22/33. Verdict for defendant.

17. Ferguson v. C. O. Mays and A. L. Hilbig. Negligent reduction of fracture of the forearm. Filed 7/10/33. Case originally brought in Seward County. Dismissed by plaintiff and refiled in Sedgwick County. Now at issue.

18. Crable v. M. D. Hill and H. J. Davis. Action for negligent treatment during childbirth resulting in death. Filed 9/1/33. Pending on preliminary motion.

19. Jessup v. G. A. Chickering. Negligent use of x-ray in treating disease of skin. Filed 9/2/33. At issue.

20. Robbins v. O'Donnell. Action for burn received by use of infra-red lamp. Filed 9/14/33. At issue.

21. Stevenson v. Smith. Negligent failure to set fracture of forearm and dislocation of elbow. Filed 10/27/33. Pending on preliminary motions.

22. Coulter v. Ethel Sharp and Oscar Sharp. Action for negligent use of radium in treating tumor of womb. Filed

12/14/33. Pending on preliminary motions.

23. Edwards v. Russell. Action for use of neosalvarsan causing arsenical poisoning. Filed 12/15/33. Pending on preliminary motions.

24. Koessler v. Schroeder. Negligent failure to reduce fracture of the forearm. Filed 12/21/33. Pending upon preliminary motions.

25. Beck v. Furgason. Negligence in removing ovaries and tubes. Filed 12/22/33. At issue.

26. Bethke v. O. J. Corbett. Negligence in treating baby's eyes at birth causing blindness. Filed 1/16/34. Pending on preliminary motions.

27. Haney v. Frank C. Boggs and Milton Miller. Action for negligence in treating eyes. Filed 2/2/34. Pending on preliminary motions.

SUMMARY OF CASES BEGINNING MAY 1, 1924

	Cases filed.....	Cases wherein plaintiff received verdict.....	Amount of verdict.	Cases in which defendant prevailed.....	Cases settled by insurance carrier.....
May 1, 1925.....	20*	1	\$5,000.00	3	2
May 1, 1926.....	11	..	.....	9	..
April 1, 1927.....	8	..	.....	8	..
April 1, 1928.....	7	1	1,000.00	7	..
April 1, 1929.....	7	..	.....	9	3
April 1, 1930.....	11	..	.....	3	2
April 1, 1931.....	6	1	1,000.00	3	1
April 1, 1932.....	10	..	.....	3	2
April 1, 1933.....	5	..	.....	4	2
April 1, 1934.....	14	..	.....	8	1
Totals	99	3	.....	57	13

SUMMARY

Total cases	99
Cases disposed of	73
Cases pending	26

*Cases pending at the time J. D. M. Hamilton succeeded Otis E. Hungate as attorney for the Defense Board.

Trusting that this report is of satisfaction to you, I am

Very truly yours,

J. D. M. HAMILTON, Atty.

On motion by Dr. H. N. Tihen, regularly seconded and carried the reports of the standing committees, excepting those containing matters that required immediate action, were not read but

handed to the secretary for publication in the minutes.

Dr. L. F. Barney stated that the report of the Committee on the School of Medicine contained a recommendation and for that reason he would like to read his report in order that the House of Delegates might take some action on it.

REPORT OF COMMITTEE ON SCHOOL OF MEDICINE

Your Committee on the School of Medicine reports as follows:

No radical or marked changes in the School of Medicine of the University of Kansas have occurred during the past year, nevertheless, it keeps pace and maintains its high rank among the medical schools, continuing as one of the A plus schools.

Both the school and the student body have felt heavily the effects of the results of the serious widespread depression through which most of the entire world is now passing. The income has been gradually falling while, owing to the rise of staple goods, the expenditures have been gradually increasing. To help offset this, salaries have undergone a graduated cut of 14 to 25 per cent, and the salaries of student nurses will be discontinued after July 1, 1934. The student nurses now are being paid \$10.00 per month.

Many of the medical students have required financial aid. Fifteen have been helped by the CSEP (College Student Employment Project), a federal appropriation being given needy college students. Fifteen other medical students are being helped by the institution giving employment to their wives.

In 1933 the out-patient department saw 54,537 patients compared with about 40,000 in 1931, and about half of that latter number two years previously. The hospital had a reduction of between 10 to 15 per cent of the previous year due chiefly to a reduction of more than 50 per cent of the number of crippled children hospitalized there. The number of patient days in 1933 was 65,798 compared with approximately 36,000 patient days in 1931, but in 1931 there were only 120 hospital beds while now there are 240 beds.

The x-ray and the gynecological departments are woefully handicapped because of lack of physical facilities. Both departments have demands for growth but cannot possibly expand under the present facilities. Many cancer patients are turned away because of lack of facilities in these departments.

The out-patient department and the colored patients are housed in an army barracks building which was constructed to be used for not more than two or three years and has now been occupied for 10 years. It is a flimsy firetrap sadly in need of repairs and is a disgrace to the State of Kansas.

To prevent the abuse of free work in the out-patient department the plan of requiring all patients who enter the out-patient department to have an eligibility slip certified by a doctor of medicine, a minister or a recognized social service organization was established in 1933 which has worked fairly satisfactory.

Investigation shows that approximately 80 per cent of the eligibility slips have been signed by doctors, 12 per cent by ministers and eight per cent by recognized charitable organizations. To further curtail the abuse of free work a social service worker has recently been added to investigate the status of these patients. This investigation has revealed that more eligibility slips have been signed for non-deserving patients by doctors than by other agencies.

Therefore, your Committee on the School of Medicine recommends that "the House of Delegates of the Kansas Medical Society herein assembled, condemns the practice of all agencies signing slips attesting the eligibility of patients to receive free medical service when such patients are able to pay a fee for private medical service."

The Annual Post Graduate Clinics were given at the medical school the first week of April at which time "Therapeutic Procedures" were emphasized and more than 60 practicing doctors of medicine, mostly from various parts of the state, were enrolled. During this same time the fourth Porter Lectureship series was given. This combination is planned to be an annual affair. Doctor Richard

E. Scammon, Dean of Medical Science of the University of Minnesota and a graduate of the University of Kansas, gave the Porter lectures.

The number of students desiring admission to the medical classes has rapidly increased until 538 of a total of 2,442 male students enrolled this year at the University of Kansas gave as their first choice the study of medicine.

The enrollment in the medical school for the current year is:

Freshman	75
Sophomores	70
Juniors	69
Seniors	67
Total	281

This year's senior class is the largest by far in the history of the school. The present facilities at the school are adequate for a limit of about 60. A limit of 70 has been made and kept as the maximum for clinical classes.

Your committee believes that the point of saturation as to the number of practicing physicians to serve the public best has been reached in the state of Kansas. The number of physicians now being annually retired from the practice of medicine in Kansas is about 60 which is the number of replacements required.

Respectfully submitted,

L. F. BARNEY, M.D., Chairman
L. S. NELSON, M.D.
A. R. CHAMBERS, M.D.
H. E. MARCHBANKS, M.D.
W. M. MILLS, M.D.

On motion by Dr. L. B. Gloyne, regularly seconded and carried the report was adopted.

Dr. E. C. Duncan said that the report of the Committee on Public Policy and Legislation was of special interest and that he thought it should be read before the House of Delegates.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Our last report covered all activities of this committee up to our last meeting at Lawrence in May but the special session of the legislature brought unlooked for problems.

We consulted numerous members of both branches of the Legislature in an attempt to get remedial legislation for certain conditions existing in Sumner County and the state at large, but it was the consensus of opinion that nothing could be done at the special session.

A bill which was about ready for passage was called to my attention, removing all restrictions as to qualifications in those appointed as heads of our state hospitals. Not having time to study this bill and to consult others of the committee, we used what influence we could muster and succeeded in having the bill killed. Such a bill should be referred to the full committee and probably the Council as well for study before introduction. Poor coordination between members and committees.

The matter of army officers and full-time physician employees of our state institutions practicing medicine and surgery in competition with private practitioners should be considered by this society and remedial legislation recommended if deemed advisable.

Strange as it may seem, several other bills were introduced in this special session detrimental to the people of the state as well as to the medical profession; your committee was successful in having them sidetracked.

Now probably as never before it is necessary for this committee, with full cooperation of every member of this society, to be wide awake. I want a committee meeting in Wichita and we should have a meeting early in the fall.

This committee invites all members of this society, whether holding any office or not to contact us with any constructive suggestions that may occur to you. We want to get behind constructive legislation and have things shaped up *before and not after the opening of the next legislative session*. We know we will have rather a large order in defeating pernicious legislation.

Your chairman wants to especially thank Doctors Colt, Hassig, Bowen, Brown, Johnson and Huffman for their assistance and never failing promptness and willingness to give valuable time to our committee. Also to extend our ap-

preciation to the numerous members throughout the state who responded so enthusiastically when asked to send telegrams to our legislators in Topeka.

E. C. DUNCAN, M.D., Chairman
J. D. COLT, SR., M.D.
H. L. CHAMBERS, M.D.
W. F. BOWEN, M.D.
J. F. HASSIG, M.D.

On motion by Dr. L. D. Johnson, regularly seconded and carried, the report was accepted and placed on file.

REPORT OF COMMITTEE ON PUBLIC HEALTH AND EDUCATION

In view of the conditions arising from the present economic state of the general public such as overcrowding, insufficient feeding, and unsanitary conditions generally, the above committee desires to impress upon the members of the state society that each and everyone of us should redouble his efforts in the prevention of all contagious and communicable diseases.

Time has proven the efficiency of diphtheria immunization. The same for smallpox vaccination, typhoid may be better prevented than cured, so we urge each of you to vigilantly observe the earliest indications of development of an epidemic of these and any other diseases, and, that, in addition each county society should enlist the aid of all local societies, parent teachers' associations, service clubs, chambers of commerce, ministers and church organizations, in this effort to prevent the development of serious and wide-spread increases of contagious diseases.

We appeal for more whole-hearted cooperation of private physicians and organized public health agencies to promote mutual interests in this regard. We suggest the appointment of public health and public education committees in each county society, and the enlistment of the services of Chamber of Commerces and lay organizations for the promotion of public health education through schools, civic clubs, newspapers and radio.

Respectfully submitted,
H. E. HASKINS, M.D., Chairman.

(Continued in August Journal)

THE PHYSICIAN'S LIBRARY

PRACTICAL MEDICINE SERIES, THE YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY: Edited by Fred Wise, M.D., Professor of Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital of Columbia University; President (1933) of the American Dermatological Association, Inc., and Marion B. Sulzberger, M.D., Associate in Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital of Columbia University. 443 pages, The Year Book Publishers, Inc., Chicago. Price \$2.25.

This volume contains a most complete review of the literature on dermatology and syphilology of 1933. The editors of this Year Book are alone sufficient assurance of the value of this work. To the general practitioner of medicine the section on the treatment of syphilis and the review of bismuth therapy is of inestimable value.—A.J.B.

OUR MYSTERIOUS LIFE GLANDS AND HOW THEY AFFECT US, by William J. Robinson, Ph. G., M.D., Consultant to the Department of Genito-Urinary Diseases and Dermatology, Bronx Hospital. Fellow of the New York Academy of Medicine and of the American Medical Association. Member of the Medical Society of the State and County of New York, and of the American Association for the Advancement of Science. Eugenics Publishing Company, New York, 1934. Price \$2.50.

Written primarily for lay reading, this volume is a popular treatise on our glands and their secretions—what they do to us; how they affect our health, growth, appearance, temper, mentality and character. Of especial interest is the chapter on "Rejuvenation: Its Present Status." No less than six chapters are devoted to discussion of vitamins. The book is profusely illustrated which further clarifies the reading matter. In addition there is a Glossary of more than 30 pages which defines technical terms used. Physicians may recommend this volume to their patients as an authoritative text on the subject.—E.G.B.

NEW AND NONOFFICIAL REMEDIES, 1934, containing descriptions of the articles which stood accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1934. Cloth. Price, Postpaid, \$1.50. Pp. 510; 1x. Chicago: American Medical Association.

New and Nonofficial Remedies, 1934, has the same pleasing format and helpful mechanism that has characterized it in past years. The enrichment of the indexing started a few years ago is continued

and its value even increased by some desirable simplification of cross references.

The Council has made the usual careful revision of the book. The general article Lactic Acid-Producing Organisms and Preparations has been practically rewritten. The chapter on Arsenic preparations has undergone some revision, especially in the statement concerning Neoarsphenamine. The descriptions of Chiniofon and Vioform have been revised in the light of recent developments in the treatment of amebiasis. The article on Ethylhydrocupreine has been revised to delete references to Optochin Base, which has been omitted; Optochin Hydrochloride has been retained, being recommended only for external use. The description of Typhoid Vaccine has been revised to give the dosage of the combination of typhoid and paratyphoid organisms and to mention the use of typhoid vaccine in non-specific protein therapy. A number of revisions of the Council's Rules have been made, particularly with reference to the names of products, which is one of the most frequent and troublesome of the problems with which the Council has to deal. Comparison with last year's volume will show that revisions of more or less importance occur in many other chapters.

INTERNATIONAL CLINICS: A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest. By leading members of the medical profession throughout the world. Edited by Louis Hamman, M.D., Visiting Physician, Johns Hopkins Hospital, Baltimore, Md. Volume I. Forty-Fourth Series, 1934. J. B. Lippincott Company. Price, \$3.00 per volume.

The International Clinics have started something new and very interesting in the March 1934 edition. They are giving the case history and physical findings of two cases without any laboratory work and are enclosing two post cards with a list of different laboratory, x-ray and special clinical work that may be asked for on these cases. The doctor is asked to make a tentative diagnosis from the history and physical findings and then return the cards asking for the other work he desires and from this make a final diagnosis and then compare it with the diagnosis which accompanies the lab-

oratory work. This should develop in the subscribers to the Clinic an opportunity to better themselves in taking histories and making physical examinations and to become more acute in their diagnoses. For myself I think it is a very splendid idea. The first article by Dr. Noel Fiesinger takes up in detail hepatic insufficiency; gives the anatomy, psychology and different syndromes of the insufficiency. Following this is an article by Dr. Lay Martin on jaundice. William S. Love, Jr., has a very fine article on so-called functional heart disease and if not read by every internist should be studied carefully by the psychiatrist. Along this same line Dr. Henry Monroe Moses has an article on the management of old age conditions which should be read and studied by every general practitioner. The main idea is to remember that degenerative processes are taking place and on this account they can not be treated like younger individuals. Dr. A. Canarow gives an interesting summary on progress in medicine and takes up in a more or less summary form the various conditions of the body. He gives the progress that has taken place in late years and at the end has a very fine reference to each one of the conditions discussed.—C.K.S.

SURGICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 14, Number 2. (New York Number—April, 1934) 293 pages with 71 illustrations. Per Clinic Year (February, 1934, to December, 1934). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

This New York number will be enjoyed by all its readers as it contains so many interesting clinics of great practical value. Among these are Dr. Edward Keyes management of the prostatic with urinary retention and Dr. Edward Beers discussion on urinary tract calculi. Dr. Louis J. Ladin presents six cases of fibroids complicating pregnancy. Dr. Edwin G. Ransdell, in his contribution on Ludwig's angina, advises complete removal of the submaxillary gland in order to accomplish free and adequate drainage. Dr. George Woolsey gives an interesting discussion on peptic ulcer. It is further discussed by Dr. J. William Hinton whose treatment is more radical. Dr. Percy Klingenstein presents a typical case of carcinoma of the

sigmoid with method of operative procedure. Dr. F. M. Frankfeldt discusses rectosigmoid hemorrhage, interpretation and newer considerations in treatment. Dr. William Crawford White presents five cases of diabetic gangrene and emphasizes the point that arteriosclerosis is the further problem to be dealt with in these cases.

Dr. Lilian K. P. Farrar's analysis of the deaths that occurred in the gynecological service in the Woman's Hospital during 1932, contains many valuable and pertinent facts.

There are a number of other equally interesting clinics in this volume.—M.B.M.

EXTERNAL DISEASES OF THE EYE: By Donald T. Atkinson, M.D.—Consulting Ophthalmologist to the Santa Rosa Infirmary and the Nix Hospital, San Antonio, Texas. Octavo, 704 pages, 479 engravings. Lea & Febiger, Philadelphia. Price, \$7.50.

This book is written especially for the general practitioner. It deals with conditions and methods of examination without the necessity of any special eye equipment. It is clearly and concisely written, giving very accurate and complete descriptions of conditions without dealing with theories and ultra-scientific matter, which would be of no interest to the general practitioner. For the specialist it is a valuable book because it is a quick reference to any of the external diseases of the eye.—H.W.P.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1933. Cloth. Price, Postpaid, \$1.00. Pp. 188. Chicago: American Medical Association.

The main bulk of the volume, which is, incidentally, considerably increased over that of recent annual volumes, is taken up with reports on products which the Council has found unacceptable for inclusion in New and Nonofficial Remedies. Of special note are: The report on Alpha-Lobelin, a drug upon which the Council in 1927 issued a preliminary report but which is now found not to have established itself as a respiratory stimulant of as great usefulness as carbon dioxide and oxygen; the report on a number of preparations marketed by the Upjohn Company with unwarranted, misleading and unscientific claims; the report on Diampysal, another pyridine derivative proposed for use in

bacterial infections, convincing evidence for the therapeutic value of which is lacking; the report on Euphydigital, an irrational mixture of digitalis and a theophylline preparation marketed under an uninforming, proprietary name, with exaggerated and unwarranted claims for its therapeutic value; and the report on Niazo, a pyridine compound of unsubstantiated value as a urinary antiseptic.

A feature of marked current interest in this volume is the preliminary report on Alpha-Dinitrophenol, the new drug for acceleration of cellular metabolism. The Council voices a warning on the dangers attending the use of this drug; this warning has been increasingly justified in reports of fatalities since the appearance of the Council's report in July of last year. The comprehensive and definitive special report on estrogenic substances furnishes a much needed review of the present status of such products in gynecologic therapy. The Council insists upon the doctrine that basic laboratory investigation of these substances should precede clinical use. Of interest to hospital authorities, especially in connection with the book *Hospital Practice for Interns* recently issued by the Council in collaboration with the Council on Medical Education and Hospitals, is the special report, *The Hospital Formulary*, by Hatcher and Stainsby of New York. Of more general interest is the Council's second report on the intravenous use of barbitol compounds which is the result of a questionnaire sent to representative physicians. The lengthy report on the omission of Pyridium is an outstanding example of the meticulous fairness characteristic of the Council's treatment of the manufacturers of commercial preparations. In connection with the omission of Pyridium should be noted the report which declares Azophene (Mallophene) not acceptable. This product has been shown to be identical with Pyridium and the Council considers the claims for its usefulness as a local, general, or urinary antiseptic as unwarranted, as are those for Pyridium.

BIRTHS

Kansas City: Dr. and Mrs. Julius A. Burger, May 10, 1934; a son, Raymond Eugene.

Manhattan: Dr. and Mrs. Darrel Lee Evans, May 21, 1934; a son, Lawrence Lee.

Pittsburg: Dr. and Mrs. Chester Herbert Smith, April 30, 1934; twin sons, Claudius Aubrey and Frank Ellsworth.

Wichita: Dr. and Mrs. Frank A. C. Emery, May 14, 1934; a son, Frank Eugene.

—R—

DEATH NOTICES

COMER, J. J., Willis, aged 67, died May 15, 1934, by drinking carbolic acid. He graduated from Rush Medical College, Chicago, in 1893. He was a member of the Society.

CRAWFORD, THOMAS HAMMOND, Coldwater, aged 75, died March 26, 1934, in Steubenville, Ohio, of cerebral hemorrhage. He graduated from New York University Medical College in 1881. He was not a member of the Society.

LIGGETT, ELMER E., Oswego, aged 73, died June 3, 1934. He graduated from College of Physicians and Surgeons, Keokuk, Iowa, in 1884 and from Bellevue Hospital Medical College, New York City, in 1893. He was elected president of The Kansas Medical Society in 1919; was Labette County's first health officer, serving from 1885 to 1889; was chairman of the Necrology Committee of The Kansas Medical Society for eight years; member of the American College of Surgeons; charter member of Labette County Medical Society (1884) and Southeast Kansas Medical Society. He was an honorary member of the Society.

MENARD, CHARLES E., Paxico, aged 65, died May 1, 1934, of chronic valvular heart disease. He graduated from Kansas Medical College, Topeka, in 1898. He was not a member of the Society.

PERSONALS—NEWS ITEMS

Bronson: Dr. J. S. Cummings, a practitioner of medicine for 52 years, received his friends at his home on June 8, on the occasion of his eighty-third birthday.

Burr Oak: Friends and relatives of Dr. J. E. Hawley paid tribute to him on June 8, on the occasion of his eighty-second birthday.

Clay Center: Dr. E. C. Morgan has been reappointed to a three-year term as a member of the Kansas State Board of Medical Registration and Examination.

Fredonia: Dr. E. C. Duncan, Chairman of the Legislative Committee of the Kansas Medical Society, was in Topeka on society business on June 14.

Horton: Dr. G. M. Edmonds and Miss Katherine Lindsay, also of Horton, were married on June 6, 1934.

Iola: Dr. Richard E. Garlinghouse, son of Dr. O. L. Garlinghouse, and Miss Miriam Esther Thoroman were married in Topeka, June 17, 1934.

Junction City: The Geary County Board of Commissioners has discontinued the full-time county health department which has operated continuously since September 1, 1919. Dr. W. S. Yates has been named as part-time health officer and county physician.

Kansas City: Dr. Clay E. Coburn has been reappointed to a three-year term as a member of the state board of health. He has served as a member of the board for a total of 25 years, and with the exception of two years the terms have been served consecutively. He was elected president at the annual meeting of the Board in Topeka, on June 27.

Lawrence: Dr. M. D. Hill of Topeka and Mrs. Zella I. Simpson were married on June 7, 1934.

Norton: A clinic for crippled children was held on June 11 with 62 in attendance. Doctors M. E. Pusitz of Topeka and F. E. Coffey of Hays were the orthopedic surgeons in charge.

Topeka: Dr. John W. Mintener, assistant superintendent of the Topeka State Hospital, was elected as a member of the American Psychiatric Association at the ninetieth annual meeting in New York.

Topeka: Approximately 100 physicians wrote the examination or applied by reciprocity to practice medicine at the semi-annual meeting of the board of registration and examination held on June 19-20, 1934. Doctors J. F. Hassig, Kansas City, and C. H. Ewing, Larned, were reelected as president and secretary, respectively.

Topeka: Dr. A. K. Owen passed the examination given by the National Board of Radiology at Cleveland on June 11, 1934. He was also made a Fellow of the American College of Radiology.

Topeka: Dr. James G. Stewart has been appointed as a member of the Kansas State Board of Health for a three-year term ending March 28, 1937. He succeeds Dr. J. L. Lattimore, also of Topeka.

Topeka: Dr. Earle G. Brown attended the Conference of State and Territorial Health Officers with the United States Public Health Service and also the Conference of State and Provincial Health Authorities of North America held at Washington, D. C., June 5-8, 1934. He addressed the conference on June 6, on "Farm, Home and Highway Accidents in Kansas."

Topeka: Byron C. Smith, M.D., has resigned as Assistant Physician at the Topeka State Hospital, effective July 1, to accept the position of House Physician on orthopedic surgery at the Newington Hospital for Crippled Children, Hartford, Connecticut.

Wichita: Dr. J. E. Wolfe left on June 19 for a two-weeks vacation in Minnesota and Michigan.

Wichita: Dr. C. R. Hepler has resigned his position as Sedgwick County Health Officer (full-time) to become assistant physician at the Osawatimie State Hospital. Dr. J. C. Montgomery, of Topeka, formerly director of the division of child hygiene of the Kansas State Board of Health, has been named as his successor.

COUNTY SOCIETY NEWS

CLAY COUNTY MEDICAL SOCIETY

The big program of June 1 sponsored by the Clay County Medical Society is now history. The weather was suitable for the occasion and permitted the very large attendance. The program started at 10 a.m. with golf, a number of doctors together with some laymen availed themselves of the opportunity of driving the said pill around a 36 par course; Dr. J. L. Lattimore of Topeka took first honors with a score of 37.

Lunch at the Country Club showed a very good attendance and from the conversation one could easily assume a renewal of many old acquaintances.

Everyone was extremely sorry indeed, that it was impossible for Dr. Hertzler of Halstead to be present for the scientific program. However he allotted his time to one who in the language of Chancellor Lindley is "The Doctor of Doctors," Dr. Peter T. Bohan of Kansas City. The scientific program began at 2:30 p.m. as follows: Dr. P. T. Bohan, clinic, composed of eight cases; two myxedemas, two heart cases, one focal epilepsy, one arthritic, one chronic lymphoid leukemia, one Hodgkin's, and one partial intestinal obstruction due to postoperative adhesions. The discussion of these cases was opened by Dr. Fred J. McEwen, of Wichita. After an extensive discussion and a number of questions, Dr. Bohan closed the clinic by answering the questions together with some further pertinent remarks.

Dr. Orville T. Withers of Kansas City gave a lecture on "The Allergic Diseases," illustrated with lantern slides. This was a very able presentation of a very common as well as very difficult sub-

ject to cover in the time allotted. The discussion on this subject was led by Dr. J. L. Lattimore, of Topeka. The extreme interest in this subject was manifest by the numerous questions and expressions of gratitude to Dr. Withers for the excellent manner in which the subject was presented. Dr. Withers closed the discussion and this concluded the program for the afternoon session.

Dinner was served at the Country Club, at 7 p.m. Between courses the guests were royally entertained by one who poses as authority on a very common but much neglected subject. The entertainer was Dr. Emsley T. (Johnnie) Johnson of Kansas City, Mo., St. Joseph's Hospital. By special request the program committee arranged for a reunion of the class of 1921 University of Kansas Medical College. A number of the class were present, sat at a special table, and sang many of the old familiar songs.

The evening program consisted of an illustrated lecture on "Carcinoma of the Rectum," by Dr. Claude F. Dixon, of the Mayo Clinic. After a most excellent presentation of the subject, moving pictures of operative methods and technique were shown. A thorough discussion of the subject opened by Dr. M. J. Owens of Kansas City, Mo., brought to a close the scientific program for the evening. After the program some time was spent in a social way.

Everybody realized that the day was a success in every conceivable way. The attendance was unusually large. One feature of the day, noticeable and gratifying, was the apt attention of the 126 doctors counted in the afternoon. Few left the lecture room while the program was in progress. This is an eloquent testimonial to the earnestness of the listeners—they came to hear and to learn.

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Kansas City, Mo.

Individually and collectively, the members of our society take pride in the success of the day. We realize, however, as delightful as is the role of host, and as happy as our many visiting colleagues make us—and as valuable and necessary as is their fellowship—still, after all, it is upon the program and upon the fine spirited, generous devotion of our masters of medicine that the success of the occasion depends. Fully cognizant, therefore, of our debt to all those who had a part in the program, we take this opportunity to thank them for the sacrifices they made in bringing us these practical, useful and scientific messages.

To our out-of-town colleagues: Your presence inspired us and we believe you in turn were inspired and instructed. Our entire society was a committee to make you welcome. It was our individual business on that day to make you glad you were with us and we hope we earned your approval.

Among other distinguished guests present were: Dr. J. F. Hassig, Kansas City, president-elect of the Kansas Medical Society; Dr. L. F. Barney, Kansas City; Dr. J. D. Colt, Manhattan, past presidents of the Kansas Medical Society, and Dr. C. H. Ewing of Larned. Dr. Robert Algie, vice president of the Clay County Medical Society, had charge of the program during the day. Dr. F. R. Croson, our president, was at Rochester, Minn., on that date.

E. N. MARTIN, M.D., Sec.-Treas.

SOUTHEAST KANSAS MEDICAL SOCIETY

The Southeast Kansas Medical Society held its regular quarterly meeting at Parsons, Kansas, on the evening of June 4, 1934. The following program was given:

“The Cooperative Management of Malignant Diseases of the Female Genital Organs”—(1) Surgical Aspects—Dr. Harold Kuhn, Kansas City, Mo. (2) Radiological Aspects—Dr. E. H. Skinner, Kansas City, Mo. (3) Pathology with Especial Emphasis on Biopsy and Radio Sensitivity—Dr. F. C. Helwig, Kansas City, Mo.

There were 58 members and guests at the meeting.

Election of officers for the following year resulted in the election of: president, H. H. Brookhart, Columbus; vice president, A. R. Chambers, Iola, and secretary-treasurer, John Sherman, Chanute.

The next meeting of the society will be in Fredonia, Kansas, sometime in September.

A committee was appointed by President Morrow to draft suitable resolutions to send to the family of one of our oldest members, Dr. E. E. Liggett of Oswego, who died Sunday morning, June 3, after a rather long illness. A copy of the resolutions are also to be sent to the newspaper of Dr. Liggett's home town. Dr. Edgar C. Duncan of Fredonia and Dr. Earle Stephenson of Oswego were the committee.

HOWARD E. MARCHBANKS, M.D., Sec'y.

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KANSAS MEDICAL AUXILIARY

MRS. L. B. GLOYNE, Kansas City
Chairman of Publicity

The Brown County Medical Society, Ladies Auxiliary held their meeting for May at Horton, Kansas, Friday evening, May 25. Mrs. L. C. Edmonds was hostess to the Auxiliary at the Country Club. During the business meeting, Mrs. Paul Conrad, President of the Auxiliary, spoke of the honor the Auxiliary had received by one of its members, Mrs. W. G. Emery being elected President of the State Auxiliary at the state medical meeting held recently in Wichita, Kansas.

Miss Nina Hanson, Brown County Commissioner of the Poor, who has recently returned from the National Conference of Social Work in Kansas City, Missouri, gave a report of the new phases of the work; she also told of her work with the poor of Brown County.

Mrs. C. R. Rucker gave a very excellent description of her recent visit to New Orleans.

Mrs. R. T. Nichols gave a report of the state meeting in Wichita, May 10.

The doctors joined the ladies for a social hour. Light refreshments were served by the hostess assisted by Mrs. James Bowen.

The outstanding social meeting of the Auxiliary to the Wyandotte County Medical Society was a bridge-tea held at Quivira Lakes Clubhouse June 5. Mrs. F. S. Carey was chairman; assisting hostesses were: Mesdames Lewis G. Allen, L. L. Bressette, C. E. Hassig, J. F. Hassig, L. E. Growney, C. E. Sanders, C. O. West, P. M. Krall, H. L. Regier, J. A. Jones, L. B. Spake, O. W. Davidson, G. H. Hobson, F. Campbell, and E. R. Millis.

A joint meeting of the Wilson County Medical Society and its Auxiliary picnicked at the Country Club June 4 at 6:30 p.m. after which each organization adjourned to separate places for their respective meetings. Those in attendance at the Auxiliary meeting were Mesdames J. W. McGuire, B. P. Smith, J. L. Moorhead, and O. D. Sharpe, Neodesha; A. C.

Flack, E. C. Duncan, Vida Morgan, H. E. Morgan, and W. H. Young, Fredonia, with Miss Florence Stevenson, Independence, Mo., Mrs. Leslie Smith and little daughter Theresa, Neodesha, as guests. The secretary read the financial report for the past year which was approved. Mrs. Sharpe moved that a vote of thanks be given Mrs. McGuire for her very efficient services as



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president, and Mrs. Flack moved that a vote of thanks be given Mrs. Smith for her very creditable work as secretary-treasurer. The president read a very detailed report of last year's work written by Mrs. J. W. McGuire. Mrs. Flack, Mrs. Duncan and Mrs. H. E. Morgan gave reports on the State Auxiliary convention held in Wichita, May 8-11, inclusive. Mrs. Flack further stated the national president, Mrs. James Blake, Minnesota, and state president Mrs. E. J. Nodurftth commented very favorably on the work accomplished by the Wilson County Auxiliary and especially complimented the Auxiliary on sending the fine gift of books to the State Sanatorium for Tuberculosis at Norton. This was made possible by the generous manner in which many residents of Fredonia responded to the appeal for books and the payment of freight by the American Legion Auxiliary. This project was probably original with the Wilson County Auxiliary and will perhaps be an inspiration for other state and national organizations to do likewise. The increase in membership to the medical auxiliaries for the past year in the state of Kansas was largely due to the efforts of the state president, Mrs. E. J. Nodurftth and state organizer, Mrs. E. C. Duncan. The president, Mrs. A. C. Flack, appointed the following chairmen for the various committees: Mrs. Duncan, Legislative Committee; Mrs. Moorhead, Program; Mrs. Sharpe, Necrology; Mrs. Harold Morgan, Membership; Mrs. McGuire and Mrs. Dewey, Health and Education; Mrs. Riley and Mrs. Vida Morgan, Hygeia; Mrs. Duncan, Historian, and Mrs. Young, Publicity.

TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of March 31 the following have been accepted:

Cheplin Biological Laboratories, Inc.—Ampule Solution Procaine Hydrochloride 2 per cent, 1 cc. Ampule Solution Procaine and Epinephrine, 3 cc. Ampules Bismuth Subsalicylate 2 Grains (0.13 Gm.) in Oil, 1 cc. Ampules Solution Mercury Succinimide $\frac{1}{8}$ Grain (0.01 Gm.), 1 cc.

Lederle Laboratories—Refined Diphtheria Toxoid (Alum Precipitated).

Schering & Glatz, Inc.—Urotropin—Urotropin Tablets, 5 grains (0.3 Gm.) Urotropin Tablets, $7\frac{1}{2}$ grains (0.5 Gm.)

Ucoline Products Company—Ucoline Calcium Phosphate Cocoa Wafers.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

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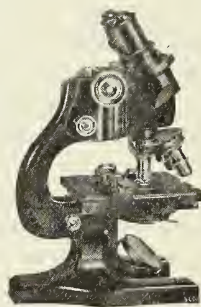
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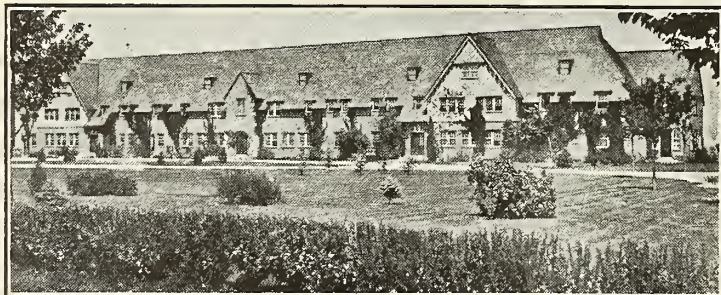
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of the

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No. 8

ORIGINAL ARTICLES

UNUSUAL HEMORRHAGIC DISEASE DUE TO HYPOCALCEMIA IN A NUTRITIONAL ANEMIA*

MAURICE SNYDER, M.D.

Salina, Kansas

The patient concerned in this report was a teacher, aged 53 years, who presented evidence of an unusual and interesting hemorrhagic disease. An anemia of the pernicious type and a marked hypocalcemia were found, due to an obscure gastro-intestinal disturbance, from which the patient had been suffering for many years. The administration of calcium salts and repeated small transfusions of blood resulted in prompt cessation of bleeding.

CASE REPORT

The patient, an unmarried woman, aged 53 years, was admitted to the Cleveland Clinic Hospital on May 10, 1932. Her condition was critical as she had been bleeding profusely into the skin, and from the kidneys and gastro-intestinal tract. The bleeding had begun four days prior to admission, and first started in the skin of the right buttock following an intramuscular injection of liver extract. Large and small ecchymotic areas had appeared in the skin of the arms, hands, back, buttocks, and legs. These areas had become progressively larger and new ones had continued to appear daily. She had been bleeding some from the gums, vomiting dark blood, and passing large quantities of blood in the urine and stools. The only other major complaints were diarrhea and weakness. The diarrhea had persisted periodically for the past ten years, usually alternat-

ing with constipation and tending to recur for periods of two to three weeks, during which time she would have four to ten stools a day. In the last two or three years the diarrhea had become much worse, and she had been hospitalized elsewhere in March, 1930, in order to determine the cause. It was reported at that time, that "the passage was voluminous, frequently followed by severe prostration, the stools were yellowish white in color, rather foamy and tending to be of a watery, semisolid consistency. There was some urgency but no incontinence." The examination of the stool was reported as negative for occult blood or parasites. The patient gave no history of blood or mucus in the stools, and stated that she had never been south of her native State of Ohio. Her appetite had always been rather capricious, but no history of dietary deficiency could be elicited. There had been a gradual weight loss of 60 pounds over the past three years, but in spite of the undernutrition, no physical weakness was experienced until after the bleeding had occurred. The patient had had anemia for the last four years, for which she had been receiving intravenous and intramuscular injections of liver. She felt certain that her bleeding resulted from the liver injections, as the first ecchymosis in the skin had appeared shortly following the last intramuscular injection exactly at the site of injection in the right buttock.

The past history was irrelevant. Appendectomy had been performed with uneventful recovery. She gave no history of hemorrhagic tendency in the past. On later questioning, it was revealed that the patient had complained frequently of muscular cramps in the hands and feet, occurring off and on for the past two years. The family history was unimportant and there was no history of bleeders in the family.

*Read before the meeting of the Saline County Medical Society, at Salina, Kansas, September, 1933. Data from the Cleveland Clinic, Cleveland, Ohio.

Blood studies done elsewhere in March, 1930, showed: Red blood cells, 3,790,000; hemoglobin, 90 per cent, and color index 1.19.

The report in July, 1930, was: Red blood cells, 2,390,000; hemoglobin 58 per cent, and color index, 1.13.

The patient was a tall, emaciated woman, weighing 120 pounds, apparently critically ill. She was very irritable and depressed and expressed the wish that she be left alone to die, as she was certain that nothing could be done to alleviate her suffering. The temperature was 100° F., the pulse 95 and the blood pressure 100 systolic, 70 diastolic. There was marked anemia of the skin and mucous membranes and considerable dehydration. Scattered over the skin of the arms, hands, back, buttocks and legs were extensive large and small areas of ecchymosis, many of which were confluent. Their distribution was almost symmetrical. The lower back and both buttocks were almost a solid blue-black color, due to the presence of massive subcutaneous hemorrhages. The examination of the eyes was negative. The mouth was dry and showed no evidence of petechia. The tongue was coated, and had no signs of atrophy or glossitis. There was marked dental sepsis, the gums were rather soft and pus could be expressed from their margins. Moderate friction produced a slight amount of bleeding. A small adenoma of the thyroid was palpable. The heart and lungs were entirely normal. There was no evidence of arteriosclerosis in the peripheral vessels. The abdomen was slightly distended, with some generalized tenderness on deep palpation. The spleen, liver and kidneys were not enlarged. There were no masses palpable. The pelvic and rectal examinations were negative. There was no glandular adenopathy, and no demonstrable edema. The deep reflexes were diminished, there were no atrophies, no palsy and no sensory disturbances. Chvostek's sign was negative. Trousseau's sign was negative in five minutes at 200 mm. Hg. pressure. (Trousseau's sign was done after bleeding had ceased).

The blood count on admission was 1,800,000 red blood cells with 0.9 per cent

reticulocytes and hemoglobin, 37 per cent. The color index was 1.02, volume index 1.02, and saturation index 1.00. The blood platelet count was 420,000. There was some anisocytosis and macrocytosis of the red blood cells. The white blood count was 20,550; 93 per cent neutrophils and 7 per cent lymphocytes. No abnormal forms were seen. The icterus index was 2.0, and the bleeding time, 8 minutes. The blood coagulated (Lee and White method) in 15 minutes, but the clot was not firm, and became less firm after three to four hours; a drop of calcium chloride was added and the clot became firm, with normal retractility. The prothrombin time was 35 minutes. The blood Wassermann and Kahn tests were negative. The fasting blood sugar was 162 mg. per 100 cubic centimeters, and the blood urea 105 mg. per cent. The urine contained large quantities of gross blood. The stools were watery, and contained gross blood but no parasites. Examination of emesis showed gross blood and normal free acidity.

During the first two days in the hospital, the patient received daily transfusions of whole blood, 400 c.c. and intravenous injections of glucose and fluids. This treatment produced little or no improvement. The bleeding had actually increased in amount, the patient appeared to be bleeding as rapidly as the blood was being supplied by transfusion. On the third day, after two transfusions were given, the blood count was 1,700,000 red blood cells, 39 per cent hemoglobin, coagulation time, 45 minutes. Because of the finding that addition of calcium to the patient's blood in the test tube hastened coagulation, it was thought that the blood might be deficient in calcium. A serum calcium determination was done and this revealed the very low figure of 5.22 mg. of total calcium. On the third hospital day, a third blood transfusion was given, and intensive calcium therapy was started. Intravenous injections of 20 c.c. of 10 per cent calcium gluconate were given twice daily. The improvement following the institution of calcium therapy was very striking (Fig. 1). Within 24 hours the urine was practically free from blood. The vomiting

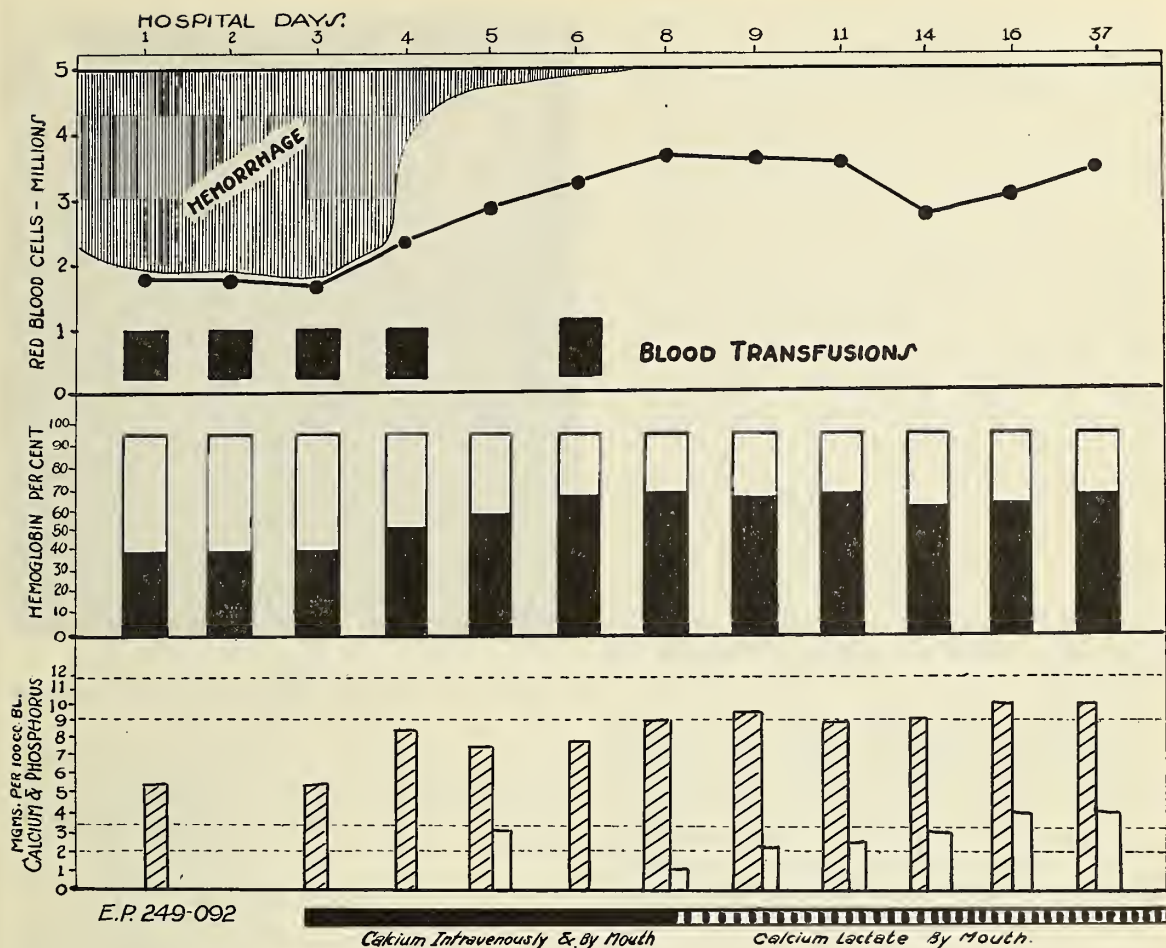


Fig. 1

Showing the response of the serum calcium, serum phosphorus, erythrocyte count, hemoglobin and hemorrhage to treatment.

ceased, and the patient began to show signs of animation. On the fourth day, 12 hours after the last calcium injection, the serum calcium was 8.02 mg. per 100 cubic centimeters, the blood count, 2,320,000 red blood cells, and the hemoglobin 49 per cent. A fourth blood transfusion raised the count to 2,920,000 erythrocytes, and the hemoglobin to 58 per cent. The patient's general condition began to improve rapidly. The purpuric areas of the skin were beginning to fade out, no new ecchymoses were appearing. The bleeding from the gastro-intestinal tract had ceased and the urine contained only a small amount of blood microscopically. As vomiting had ceased, calcium was given by mouth, 240 grains of calcium lactate each day. The patient received daily ultra-violet light to the body, large doses of ferrous carbonate and viosterol

(250 D) 45 minims daily. Calcium was continued intravenously because the patient was having four to five stools a day, and the amount of calcium that would be absorbed from the gastro-intestinal tract was uncertain. On the sixth hospital day, a transfusion of 500 c.c. of whole blood was given, and subsequent blood counts taken the following day showed 3,580,000 red blood cells and hemoglobin, 65 per cent. The coagulation time of the blood was 60 minutes, the calcium time, 60 minutes and the prothrombin time, 18 minutes.

The blood sugar and urea had returned to normal at the end of the first week. The capillary resistance test was done on the eighth hospital day with negative results. The urine and stools were entirely free from blood after the ninth day.

The serum calcium was readily maintained at a normal level, and as the patient improved, the intravenous administration of calcium was gradually discontinued; after the first week, calcium lactate given by mouth proved adequate. At no time were there any signs of tetany. There was no recurrence of bleeding. Several infected teeth were removed while the patient was in the hospital, resulting in only a normal amount of bleeding. During the second week in the hospital the patient developed a severe cystitis with chills, fever and leucocytosis. The blood count dropped to 2,760,000 red blood cells, 60 per cent hemoglobin, coagulation time one and one-half hours, calcium time one and one-half hours, probably as a result of the genito-urinary infection. This condition, however, responded to bladder irrigations and the patient's condition again returned to normal.

A controlled roentgenogram was taken of the radius and ulna, showing marked thinning of the bony cortex and generalized atrophic changes throughout the long bones. (Fig. 2). Roentgenologic study of the gastro-intestinal tract was negative except for a non-functioning gall-bladder. The Ewald test meal showed free hydrochloric acid, 26, with total acidity 36. Repeated examinations of the stool during the period of observation were negative for intestinal parasites. The diarrhea had entirely disappeared.

The patient was discharged after 38 days in the hospital, and was given instructions as to the continuance of medication at home. The blood picture on the day of discharge was 3,340,000 red blood cells, 65 per cent hemoglobin, volume index 1.06, color index 0.97, saturation index 0.91, white blood cells 6,100, coagulation time 12 minutes, bleeding time 6 minutes.

Letters showed that the patient had gained weight and had been doing very well until one month after leaving the clinic when she had a recurrence of diarrhea. She had no recurrence of bleeding, but rapidly lost weight, became emaciated and very weak. She had refused any further treatment, and died at her home

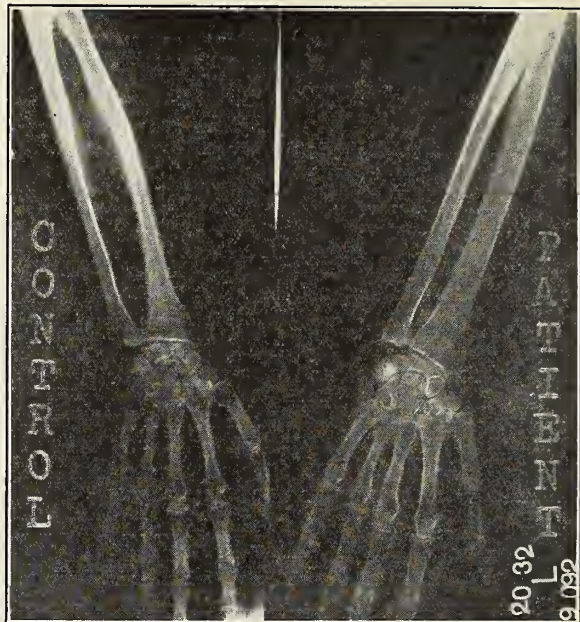


Fig. 2

Controlled roentgenogram, showing generalized decalcification of long bones.

one month later. No detailed information could be obtained concerning the series of events that led to the patient's death.

DISCUSSION

According to Howell² normal blood coagulation depends on the following factors: (1) Prothrombin, the precursor of thrombin is held neutral in the blood plasma by anti-prothrombin; (2) on adding thromboplastin (from injured tissue and platelets) to the blood, the anti-thrombin is neutralized, leaving the prothrombin in active state to unite with the calcium to form thrombin, and (3) thrombin unites with the fibrinogen to form fibrin, the clot. A disturbance of any one component in this succession of events leads to abnormal blood coagulation, resulting possibly in hemorrhage.

The factors frequently disturbed in abnormal bleeding are: (1) Quantitative platelet defect, as seen in essential thrombopenic purpura and certain secondary hemorrhagic purpuras in which there is a reduction in the number of platelets due primarily to diseases such as aplastic anemia, leukemia, pernicious anemia, avitaminosis and severe infections and intoxications; (2) qualitative

defect in blood platelets, as seen in hemophilia; (3) a deficiency in plasma fibrinogen (fibrinopenia) found in abnormal bleeding due to liver disease, and (4) a decrease in ionized calcium as seen quite commonly in jaundice. Probably more frequently abnormal bleeding is secondary to some disease process which alters the permeability of the blood capillaries. Examples of hemorrhage due to capillary injuries are anaphylactic purpura, purpura cachexia, purpura simplex and the nonthrombopenic purpuras due to infections and intoxications. The recognition of these various hemorrhagic diseases is largely dependent upon a careful blood examination.

The blood findings, summarized in the case herein reported were as follows:

- a. Marked anemia (pernicious type).
- b. Prolonged coagulation time.
- c. Prolonged (plasma) prothrombin time.
- d. Normal clot retraction.
- e. Normal bleeding time.
- f. Coagulation hastened by the addition of calcium salts.
- g. Low total serum calcium.
- h. Normal platelet count.
- i. Negative capillary resistance test.

It is apparent at once, from these findings, that this case can not be classified as belonging to any of the commonly known types of hemorrhagic diseases. From the history, the laboratory studies, and the clinical course, it would appear that this was a secondary type of pathologic hemorrhage in which several factors might be operative.

The fact that the coagulation of the blood *in vitro* was hastened by the addition of calcium seems of utmost significance, indicating either a qualitative defect in the patient's blood calcium or a reduction in the amount of calcium in the blood, below the level necessary for complete clotting. We know that the addition of calcium to normal blood has no effect on the coagulation time. The finding of a marked quantitative deficiency of calcium in this patient's blood led to the use of intravenous calcium gluconate, which almost completely controlled the hemorrhage within twenty-

four hours; thus accomplishing what two previous consecutive blood transfusions had entirely failed to do. Whether or not there was also a qualitative calcium deficiency present could not be ascertained. Of added significance was the finding that after bleeding had ceased entirely and the blood calcium had been kept at a normal level for several days, the addition of calcium to the patient's blood *in vitro* no longer altered the coagulation time. These findings would certainly suggest that the deficiency of calcium in the blood was largely responsible for this patient's abnormal bleeding and that the administration of calcium to replace this deficiency brought about the prompt cessation of bleeding.

Other factors no doubt had some part in the causation of this patient's bleeding. It is generally known that purpuric manifestations occur in marked anemia. In anemia, the blood viscosity is lowered, and there is an increased tendency for the blood to pass through the capillary walls, producing hemorrhages. Cachexia and malnutrition predispose to an altered capillary permeability, and could have been one of the contributing factors in this patient's bleeding. Whether or not the liver injection was the initial factor in starting the hemorrhage we have no proof, but this would seem most unlikely.

In going through the literature, one finds very little reference to calcium deficiency as a cause of abnormal bleeding. We are all familiar with the abnormal bleeding tendency as seen in cases of jaundice, in which the delayed clotting is thought to be a disturbance of the diffusible blood calcium, caused by the hyperbilirubinemia. However, in tetany, the blood calcium values are frequently found to be very low, and abnormal bleeding seldom occurs. Stewart and Percival³ have demonstrated that total serum calcium may become as low as 3 mg. per 100 cubic centimeters, without altering the coagulation time of the blood. These investigators believe that some complex non-diffusible calcium compound is essential for the coagulation of blood. Hess,¹ in 1915, reported a case of abnormal bleeding in a boy who

presented all of the symptoms and blood findings of hemophilia, but in whom calcium deficiency appeared to be the cause of the bleeding. He named the condition "hemophilia calcipriva," but since there was no hereditary history of bleeders in his case it could not have been true hemophilia, and the bleeding, not unlike that in the case herein reported, was most likely due to the deficiency of the blood calcium.

The hypocalcemia, the malnutrition, and the anemia exhibited in this patient were no doubt due to the prolonged gastro-intestinal disturbance and the resulting diarrhea. The nature of this primary disease condition still remains unsolved. Sprue was strongly considered as the probable diagnosis but could not be definitely proved. The long history of alternating diarrhea and constipation, the passage of voluminous liquid, foamy stools, the findings of hypocalcemia, macrocytic anemia, and emaciation in this patient, indeed presents almost the classical picture of advanced sprue.

The anemia was of the macrocytic, hyperchromic type, with a blood picture almost identical with that of pernicious anemia. I believe that one can correctly say that this patient had a nutritional anemia, the result of a nutritional disturbance caused by the prolonged diarrhea, in which there was malabsorption of the active hematopoietic substance necessary for normal bone marrow metabolism.

SUMMARY

A case of hemorrhagic disease occurring in a case of nutritional anemia caused by an obscure gastro-intestinal disturbance has been described.

A blood calcium deficiency, resulting from a prolonged diarrhea, appeared to be the cause of the abnormal bleeding.

The administration of calcium salts and repeated small blood transfusions were effective in bringing about a prompt cessation of bleeding.

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UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

Massive Collapse of Lung With Pneumonia

DON CARLOS PEETE, M.D.*

Since the recent work of Coryllos and Birnbaum, the recognition of postoperative atelectasis has become generally recognized. Their studies rather definitely substantiated the ideas of earlier investigators that postoperative pneumonia was actually a postoperative massive collapse of the lung. Coryllos came to the conclusion, by other research, that lobar pneumonia was initiated by the obstruction of a bronchus with a thick mucus exudate. There has not been a general acceptance of this view. We are here reporting a patient who had a massive collapse of the lung which was evidently entirely inflammatory in its origin, being the result of a pneumococcic infection. While one cannot prove from this case that the onset of lobar pneumonia is initiated by massive collapse of the lobe involved, certainly this patient did run a course which would substantiate some of the views of Coryllos and his workers.

Mr. E. C., white, male, 70 years of age, was first seen April 1, 1934. He was ambulatory and complained of a productive cough, weakness and a feeling of tightness in the chest. He had had a cough for the past three weeks but he thought that he could "wear it out". For two days he has felt worse and he now feels as though he has fever periodically. His cough is very productive at times, and he notices also a wheezing respiration. There has been no hemoptysis, loss of weight, or chills. He had "typhoid-pneumonia" 40 years ago; has had frequent attacks of bronchitis since, which have responded to cold vaccine; has also had frequent attacks of sinusitis.

PHYSICAL EXAMINATION

Well-nourished individual is seen, who appears quite ill. Temperature 99.6° F.; pulse 80; B.P. 130/80. Pupils react very little to light and the lens show an early

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cataract change; a mild arcus senilis is seen; pharynx is injected; teeth have been removed and plates are worn. The chest shows equal expansion on both sides, with no change noted on percussion; wheezing, musical and moist rales are heard over both sides of chest. Patient states that when he has a cold in his chest he has this wheeze. Heart sounds are not heard well, probably due to a thick chest wall. Abdomen shows a left inguinal hernia, otherwise normal.

The patient was advised to go home and go to bed. Steam inhalations and an expectorant were given. He was seen the following day and stated he felt improved. His temperature was 101° F. and pulse rate 90; coughing had increased. On April 4, 1934, which was four days after first being seen, the patient had a severe chill and his temperature went to 104° F. He was rather irrational at times and couldn't be kept in bed. His breathing was labored and there was severe pain in the left chest. On examination, a retraction of the interspaces was noticed on the left side of the chest with each inspiration. Respiration was fast and jerky in character. The left border of the heart was found beyond the nipple line; vocal and tactile fremitus over the left base were diminished; no breath sounds could be heard at the left base. A provisional diagnosis of massive collapse of the lower left lobe was made and the patient was sent to the hospital. On admittance, April 4, Dr. Underwood, the resident physician, examined the patient and he gave the same opinion. Thirty minutes after admittance, patient coughed up about one-half cup of thick mucus after which the physical findings at the left base returned to normal. He continued to raise much thick, purulent sputum during the night, and his temperature dropped to 98° F. by noon next day. Laboratory: April 5, 1934, white blood cells, 16,750—67 per cent polys.; April 6, 1934, white blood cells, 12,300.

On April 6, two days after admittance, the patient again had a chill and his temperature went to 101° F. and the findings of collapse of the lower left lobe again were evident. He was taken to the x-ray room on April 7 and the following report by Dr. Tice was given: "There is an in-

filtration in the left base mottled in character. At the level of the hilum we see small rounded infiltrative areas. The cardiac shadow is displaced to the left as is also the trachea. The diaphragm is pulled up. The rib spaces are wider on the right than on the left. No lung pathology is seen on the right. Advanced hypertrophic arthritis is seen in the thoracic spine. Conclusion: Displacement of the mediastinum toward the infiltrated left base indicates to us that there is obstruction of the lower bronchus. We attribute a good portion of the opacity to atelectasis. The possibility of a primary tumor causing obstruction must be seriously considered. We suggest bronchoscopy."

We felt the patient was too sick for bronchoscopy and decided to wait a few days. The following day, April 8, he had another chill and his temperature rose to 102° F.; the condition of patient seemed much worse. Dullness was made out over the left base; no voice sounds could be heard and there was a retraction of the interspaces on the left side. We felt that we were dealing either with a pneumonia secondary to a massive collapse of the lung as a result of a thick mucus plug, or with an obstruction due to a carcinoma with a secondary infection in the collapsed lung.

PROGRESS NOTES

As pneumococci had been isolated from the sputum several times, and with the leucocyte count at 19,000 with 79 per cent polymorphonuclear cells, we felt that there was a strong possibility of this condition being entirely inflammatory. The patient continued to have all the signs of a massive collapse, with temperature rising to 101° F. each day until April 13, nine days after admittance. It was then decided to do a bronchoscopy for two reasons: First, to confirm diagnosis and rule out carcinoma on the left bronchus; second, to aspirate the mucus plug for better drainage of lower left bronchus.

Dr. Gilliland gives the following report of the bronchoscopic examination on April 13: "After anesthetization of larynx with a 20 per cent cocaine solution, the bronchoscope was introduced into the bronchus. No pathology nor obstruction was found in the right main bronchus. Upon examination of left bronchus a thick, te-

nacious mucus plug was found obstructing the left lower bronchus. This was removed by suction and gauze sponges. A small inflamed area was seen completely encircling the lumen of the bronchus at the site of the mucus plug. No further procedure was deemed necessary after the removal of plug. Diagnosis: complete obstruction of left lower bronchus by mucus plug producing an atelectasis of the left lower lobe of the lung."

The day following bronchoscopy, his temperature dropped to normal and remained there for the first time in two weeks. The patient was hoarse and had some difficulty swallowing for about 24 hours, but stated that he felt much better almost immediately after the mucus was aspirated by the bronchoscope. The physical findings of massive collapse were no longer present and did not return after bronchoscopy.

Dr. Tice further reports on April 20, "Following bronchoscopic aspiration of a mucus plug from the left bronchus, a plate shows much less infiltration in the left base. The diaphragm on the left is not nearly as high as previously seen. The heart has changed its position but little at the base, although the upper portion is nearer its normal position."

The patient was dismissed on April 21 as cured, 17 days after admittance, and when seen two months later he stated that he was entirely well.

COMMENT

The course of this patient's illness demonstrates again the value of the bronchoscope and roentgen-ray in the diagnosis of pulmonary lesions and also the use of the bronchoscope as a means of treatment. It also demonstrates again that the bronchoscope, in skilled hands, can be used on very sick patients with little reaction, the patient, in this instance, being 70 years old and having a massive collapse of the lung with pneumonia.

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CASE REPORTS

Acute Leukemia in an Infant

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Baby T. B., age six months, sixteen days, entered the Eye, Ear, Nose and Throat service of the Smith Clinic on September 19, 1933, for examination. The results of the examination were grossly negative for pathology of the ear, nose or throat.

The baby was referred to us with the following history: Born March 3, 1933; normal delivery; has always been apparently well except for profuse head sweats, until two weeks ago when the baby became cross, irritable and listless with a watery discharge from the nose, slight cough, and a diarrhea of greenish, slimy stools of four to six per day, together with a fever of 99° to 100°. The baby's gums had been red and tender for several weeks, so the mother thought the patient's distress was due to teeth cutting. Two or three days after onset of symptoms two upper incisor teeth cut through, the diarrhea and coryza were improved by treatment of the family physician but the slight temperature persisted and the baby continued to appear sick; therefore she was referred for a check-up for possible otitis media.

Physical Examination: A well-developed, well-nourished, female baby with a peculiar lemon-yellow, waxy appearance of the skin. The mother states the infant has always been this color. The family is of Italian descent and their other child is very dark. Axillary temperature 100.4°. Weight 15 pounds. Head: Ears, eyes, nose and throat negative for pathology except for swelling of upper and lower gums. No evidence of submucous hemorrhage. Chest: Lungs apparently normal on percussion and auscultation. Cardiovascular: Pulse rate 170; no murmurs or cardiac arrhythmias. Abdomen: Flaccid; liver margin palpated one cm. below costal margin, and spleen palpable, measuring 8 cm. by 5 cm. Glandular: Cervical, axillary and inguinal lymph glands palpable and shotty.

Laboratory Findings: *x-Ray* of chest reveals thymus and chest normal. Hemoglobin 27 per cent (Sahli); red blood count 2,080,000, and white blood count 218,400. Differential: Lymphocytes 98 per cent, polymorphonuclears two per cent.

Treatment and Subsequent Laboratory Findings: On September 20, 1933, baby was treated with *x-ray* for two minute intervals over each of five areas, left arm, right arm, spleen and one exposure over both legs, thus covering the long bones and spleen using 200 K.V.P. filters of $\frac{1}{2}$ cm. copper and 1 mm. aluminum; a 1.5 cm. port over spleen and open port over long bones, using 50 cm. distance. Fowler's solution was prescribed in $\frac{1}{4}$ m. doses, three times, daily, and Jeculin one-half teaspoonful, three times a day.

On September 24, 1933, the patient was seen again and appeared much weaker. There were three small pin point petechiae on the left leg. The liver margin was barely palpable, and the splenic enlargement had decreased to the point that the spleen was not palpable. A red count and hemoglobin determination was not done but white count had decreased from 218,400 to 13,125 with a differential of lymphocytes 90 per cent, polys three per cent and degenerated whites or basket type cells seven per cent. Fifteen centimeters of whole blood taken from the baby's father was injected intramuscularly into each gluteal region with the hope of stimulating the baby. Myeladol, one-half teaspoonful, three times a day was substituted for the Jeculin.

On September 27, 1933, the patient was extremely weak and dyspneic with a deepening of the waxy appearance and increase of anemia as manifested by blanched lips and finger nails. A few small petechiae were seen on the arms and a marked purplish discoloration about six centimeters in diameter was present on each buttock at the site of blood injection. The spleen was not palpable. The blood picture was as follows: Hemoglobin 12 per cent; red blood count 950,000; white blood count 13,550 with 66 per cent lymphocytes, three per cent polys and 33 per cent degenerated white cells. Liver extract per os and intramuscular were recommended but

the baby's parents refused to prolong the baby's agony. This patient died September 28, 1933.

An autopsy was requested but permission was refused.

Pneumonia With Symptoms and Signs Referred to the Abdomen*

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A white bakery-truck driver, 41 years old, had had a chronic cough for at least 20 years. During that time he suffered several times each year from mild attacks of fever, with thoracic pain and aggravation of his cough. The episodes always subsided after a few days. His last attack had occurred about one year prior to our first seeing him.

In February, 1933, he noticed that his cough was becoming more severe. There was expectoration of an increasing quantity of yellow stringy material, most copious soon after he arose each morning. He continued at work but his appetite became poor. Because of gradual loss of vigor and strength he consulted a physician (R.L.L.) on February 24, 1933. Suspecting the condition might be pulmonary tuberculosis, although no signs of that disease could be elicited by physical examination, plans were made for examination of the sputum and for obtaining a roentgenogram of the thorax.

In the afternoon of February 25, before these diagnostic procedures had been carried out, a severe aching pain began in the back of his neck and in both lumbar regions, with occasional sharp pains shooting around the upper abdomen, particularly on the right side. About midnight he had a chill. At eight o'clock the next morning, vomiting occurred. He was seen again by his physician at 10 a. m. of this day, February 26. His temperature was 103.4 F.; pulse rate, 110; and respiratory rate, 22. The blood pressure was 95 systolic, 60 diastolic. His tongue was red and dry, and his pharynx was quite red. Normal sounds

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were elicited by percussion and auscultation of the thorax. There was considerable rigidity of the muscles of the anterior abdominal wall, most intense in the right upper abdomen. The examination otherwise was negative. Although the onset seemed to be that of an acute infectious disease, the rigidity of the abdominal muscles suggested the possibility of some serious intra-abdominal lesion. Since the patient was apparently seriously ill, he was taken to St. Margaret's Hospital for further study and observation.

The urine was normal. The concentration of hemoglobin was 80 per cent. There were, in each cubic millimeter of blood, 23,500 leukocytes, of which 88 per cent were polymorphonuclear neutrophils. A roentgenogram of the thorax showed heavy shadows in each hilum and some streaks extending into the right base; there were no shadows suggesting pulmonary consolidation. A roentgenogram of the abdomen did not show any loops of intestine distended with gas or free gas beneath the diaphragm, such as might have resulted from obstruction or perforation of the bowel.

At 2 p. m., when these tests were completed, the rigidity of the abdominal muscles was even greater than before. An exploratory laparotomy was seriously contemplated at this time because of the possibility of finding a perforated peptic ulcer or acute cholecystitis. Because the onset was so typically that of an acute infectious disease rather than that of an acute intra-abdominal lesion requiring surgery, it was decided to postpone surgical intervention in spite of the extreme abdominal rigidity. In the meantime, the subcutaneous infusion of one liter of physiologic solution of sodium chloride was begun. At the conclusion of this infusion, at 5 p. m., the abdominal muscles were completely relaxed and soft. No opiates had been given. The temperature was 103 F.; pulse rate, 110, and the respiratory rate had increased to 30. At 8 p. m., the patient had begun to sweat profusely. His only complaint was severe lumbar backache, and the abdominal muscles were still soft. The temperature was 103.4 F.; pulse rate, 108; and respiratory rate, 36.

At 8 a. m. of the following day, February 27, the temperature was 101 F.; pulse rate, 110, and respiratory rate, 34. Although physical examination of the chest revealed nothing definitely abnormal, another roentgenogram of the thorax, taken late in the afternoon of this day, showed consolidation of part of the lower lobe of the right lung.

Thereafter the course was fairly typical of bronchopneumonia. On February 28, a dull area could be outlined by percussion beneath the right scapula, and rales were heard at the base of each lung, more distinctly on the right. The patient's temperature dropped rather abruptly to normal on the fifth day. From March 2 to March 5, his sputum was hemorrhagic, of the "prune juice" variety. He was able to sit in a chair March 6, and left the hospital March 8.

Since this acute illness, his chronic cough has been more severe and more productive of purulent sputum. He has been practicing postural drainage twice each day. There have been no more acute attacks. In August, 1933, a roentgenogram of the thorax again showed the heavy peribronchial fibrosis at each hilum; both lungs had a linear granular appearance of the type associated with diffuse bronchiectasis.

COMMENT

In retrospect, it is easy to see that this man has a progressive bronchiectasis, on which an attack of bronchopneumonia was superimposed. At the onset of the acute illness, the symptoms and signs were chiefly those of disease in the right upper abdomen. The inflammatory changes in the right lower lung, which may have included diaphragmatic pleurisy, were apparently the only causes of the extreme reflex rigidity of the muscles of the abdominal wall. This case emphasizes again the importance of careful evaluation of all the factors involved in arriving at a diagnosis, including the recognition of phenomena referred by the nervous system to some other region of the body than that directly affected by the disease.

TUBERCULOSIS ABSTRACTS

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The Kansas Tuberculosis and Health Association

What Is New in Pathology?

The meeting of the Pathological Section opened with the proposal of a standard tuberculin for general use and particularly for epidemiological studies. E. R. Long, speaking for the Committee on Medical Research of the National Association, pointed out that reports now accumulating from different parts of the country seem to indicate a wide difference in the amount of infection. The comparative value of the statistics he considered doubtful, however, in view of use of tuberculin of varying quality in the different localities. Through the work of F. B. Seibert it is now possible to supply a highly purified protein derivative, prepared from the tuberculin of the Bureau of Animal Industry of the United States Department of Agriculture in their extensive cattle testing program. Dr. Long reported the results of 2,000 tests with the product, called Purified Protein Derivative, indicating its efficacy, and proposed its use as a standard.

In the discussion Drs. John Reichel and L. T. Clark, representing biological supply houses cooperating with the Committee on Medical Research, described the technical details of manufacture of the proposed tuberculin, which is offered in tablet form.

In the next paper Drs. Steele and Willis presented evidence that repeated injection of tuberculin, either in the form of O.T. or in the form of a purified whole protein (T.P.T.), and in either the same or increasing dosage, increases sensitivity to tuberculin. The increase in sensitivity occurred when the repeats were spaced at any interval from one week to three months. In the active discussion following, the general view seemed to be that the phenomenon was one of heightening of sensitivity by the procedure rather than actual induction of sensitiveness.

ALLERGY AND IMMUNITY

A study reported by D. E. Cummings and A. B. Delahant threw light on the vexed problem of the relation of allergy

and immunity. Guinea pigs vaccinated with the attenuated tubercle bacillus R₁ showed typical increased resistance to subsequent virulent infection, even when their skin sensitiveness to tuberculin was completely abolished by repeated injections of tuberculin, starting from the time of vaccination. Thus increased resistance occurred in the absence of hypersensitiveness, or at least hypersensitiveness demonstrable by the usual method of skin testing.

SILICOSIS

A study bearing on the large problem of silicosis was described by W. S. Lemon, who found that two substances of possible pathological significance in the dusty trades, viz., aluminum oxide (a constituent of emery) and boron silicate (a constituent of certain kinds of glass) produce much less permanent damage than silica when introduced in the lungs of rabbits. Each of the substances produced an early acute inflammation with outpouring of phagocytic cells, but the fibrosis caused by uncombined silicon dioxide (silica, quartz) did not occur with the other two materials.

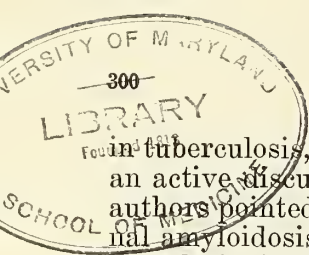
Another paper on silicosis, by H. E. Burke, showed how a new technic, "micro-incineration" may be used in the study of sputum when silicosis is suspected. After concentration and digestion with aqua regia, the sputum is centrifuged and the residue dried on slides and incinerated. Silica particles are detected by microscopic examination in polarized light. In Dr. Burke's experience the particles were present with considerable regularity in silicosis and absent in the absence of this disease, and he felt the technic was comparable in value to the search for acid-fast bacilli in tuberculosis.

VITAMIN C

A study by de Savitsch, Stewart, Hanson and Walsh indicated that in experimental tuberculosis of guinea pigs, orange juice was potent in increasing resistance to progress of the disease. The favorable effect, which was attributed to the vitamin C of the orange juice, was shown chiefly by maintenance of weight.

AMYLOIDOSIS

A paper by Drs. Bronfin and Guttman on amyloid degeneration of the adrenals



in tuberculosis, and its effects, stimulated an active discussion of this subject. The authors pointed out the frequency of adrenal amyloidosis in chronic pulmonary tuberculosis (14 per cent of a series of necropsies reported), and called attention to mistakes of diagnosis to which it might lead, particularly to the diagnosis of intestinal tuberculosis from the gastro-intestinal symptoms incident to the adrenal insufficiency. They also emphasized the serious danger in subjecting patients with amyloidosis to surgical procedures, and several of the audience in discussing the paper recalled cases in their own experience where sudden collapse in patients previously considered good operative risk was apparently, from necropsy findings, due to adrenal amyloidosis.

RESEARCH

The section meeting of the final morning was opened by Dr. W. C. White, Chairman of the Committee on Medical Research of the National Association, with a review of the activities of the Committee and the various investigators and institutions cooperating with it. He pointed out that the number of cooperating institutions had been very large, and listed results of immediate practical significance, such as the work on standardization of tuberculin and *x*-ray technic, and also results in basic studies of general fundamental application.

OLEOTHORAX

Drs. Saley, Willis and Ellwart reported a series of experimental studies on oleothorax in rabbits. With an elaborate collection of illustrations they showed that paraffin and cottonseed oils, with and without gomenol, lead to prompt exudation of fibrin and more or less extensive adhesions. In the discussion, corresponding clinical experience was reported, and it was generally agreed that before induction of therapeutic oleothorax, the marked tendency of oils to cause adhesions should be taken into account.

MULTIPLE PRIMARY FOCI

An extended study of multiple pulmonary calcifications by H. C. Sweany was supported by a large series of *x*-ray films illustrating the great variety of ways in which calcium is deposited. Besides the fa-

miliar Ghon nodules, multiple primary foci occur, and calcification frequently follows the healing of non-primary lesions, as tuberculous pneumonias which have cleared, and foci of hematogenous dissemination. Dr. Sweany offered a useful classification in distinguishing the several types.

ANEMIA

The problem of anemia in tuberculosis was described by D. E. Yochem, who re-emphasized its detrimental effect and showed how this could be counteracted by suitable therapy. One type of anemia in tuberculosis is characterized by a falling hemoglobin level with a fairly well maintained red cell count. Patients with such anemia who responded to liver and iron therapy made favorable progress against their general tuberculosis. The converse also was true.

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CANCER SURVEY OF KANSAS

FRANK LESLIE RECTOR, M.D.*

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(Continued from July Journal)

Forty-three hospitals in Kansas with a bed capacity of 3,564 are reported on in this survey. Of this number 11 were of 100 beds or more capacity. They were distributed among 29 counties and all were visited during the survey. Six other hospitals were visited in the course of the field work, but did not submit the information requested. Because of this it has been impossible to include their data. These hospitals are:

Stricklen, Arkansas City
Atchison, Atchison†
St. Mary's, Emporia
Charlotte Swift Memorial, Manhattan
McPherson County, McPherson
Security Benefit Home and Hospital, Topeka.

As noted previously, but two hospital superintendents declined to meet the field worker at the time of his visit. The superintendent of the McPherson County Hospital, McPherson, reported "off duty and resting" when the field worker called

*Field Representative, American Society for the Control of Cancer, New York, N. Y. Clarence Cook Little, Sc.D., Managing Director.

†Submitted no usable data.

at 10:45 o'clock in the morning, and the superintendent of the Security Benefit Home and Hospital, Topeka, refused an interview without a previous appointment.

The total number of adult patients admitted in 1932 to the 43 hospitals surveyed was 48,815 of which 1,399, or 2.8 per cent, were for cancer. The largest percentage of cancer patients in any hospital was 30 and the smallest .1. The hospital with 30 per cent cancer admissions is most unusual in that practically all these patients are referred by other physicians over a wide area for treatment in this institution which has access to radium and deep therapy equipment. Eliminating this institution, it is noted that the highest percentage of cancer patients in any hospital is 8.3. It is thus seen that in the average general hospital in Kansas the number of cancer patients at any given time forms but a small percentage of the total adult admissions to the institution. The small number of cancer patients, however, does not indicate their relative importance in the work of the hospital for the reason that, potentially, at least, treatment received by these patients determines to a large extent the death rate from this disease. The statement just made can and will become an actuality when cancer patients are seen sufficiently early for adequate treatment to play a large part in their recovery and future health.

That cancer patients are being seen too often in late stages of the disease in the majority of cases is emphasized by the high percentage of deaths among those cases compared to deaths from all admissions. In the hospitals reporting in this survey, 18.6 per cent of the cancer patients died in the hospital while deaths from all admissions were but 5.4 per cent. But 13 per cent of the cancer deaths in Kansas in 1932 took place in hospitals.

Table 16 gives detailed information on admissions, deaths, and autopsies reported by the hospitals of Kansas in this survey. Study of this table indicates that on the basis of three living cases for each death, not more than 24 per cent of cancer patients in Kansas in 1932 received hospital care and treatment. Of course cancer patients are seen in smaller hospitals not

included in this survey, but their inclusion would not materially affect the total number of hospital patients noted previously.

Bell Memorial Hospital: At Bell Memorial Hospital 185 cancer patients, of whom 59 were nonresidents of Kansas, were treated during 1932. Table 17 shows the county distribution of the 126 cancer patients who are residents of the state. Fifty counties, or 47.6 per cent, referred no cancer patients to this hospital during the year 1932. It is also seen from this table that but 2.1 per cent of the probable number of cancer patients in Kansas were referred to this hospital during 1932 and further that but 2.9 per cent of the probable number of cancer patients in those counties referring such patients were sent to this hospital. More than 97 per cent of the probable number of cancer patients in Kansas remained to be cared for by other hospitals and physicians throughout the state.

CANCER TREATMENT FACILITIES IN KANSAS

Hospitals: Of the 43 hospitals reported on in this survey, eight are not approved and three are approved conditionally by the American College of Surgeons. Several of the unapproved hospitals are small institutions in which the work is not sufficient in amount to permit of the staff organization required for approval.

No hospital in Kansas is devoted exclusively to cancer and allied diseases. All general hospitals of the state receive cancer patients, although one or two prefer not to treat such patients because of lack of facilities, except surgery. Some of the smaller institutions see but few cancer patients during the year and the only facilities available for cancer therapy in many of these hospitals are surgical in character.

But five of the hospitals reporting in this survey are located in the western half of the state. In this area are found but 18.8 per cent of the population and 13.5 per cent of the cancer deaths with a death rate of 76.7 per 100,000. Five of the 46 counties in this area reported no cancer deaths in 1932. In the eastern half 81.2 per cent of the population live, and 86.5 per cent of the cancer deaths occurred with a death rate of 113.3 per 100,000. Four or more deaths were reported from each county in this part of the state.

Table 16
Bed Capacity, Patients, Deaths, and Autopsies in Certain Kansas Hospitals—1932

Hospital	City	Bed Capacity		Patients—1932		Deaths		Autopsies	
		Total	Cancer	Total	Per cent Cancer	Total	Per cent all Cancer admissions	Total	Per cent of all deaths Cancer
†Mercy	Arkansas City	40	n.s.	407	5	23	5.6	.....	.....
*Community	Beloit	50	n.s.	552	14	38	6.9	28.5	31.5
Johnson	Chanute	50	n.s.	540	45	36	6.6	15.5	.....
*St. Joseph's	Concordia	75	n.s.	810	22	22	2.7	41.0	.....
*St. Anthony's	Dodge City	80	n.s.	1,500	19	73	4.8	2	6.8
*Susan B. Allen Memorial	El Dorado	44	n.s.	1,082	5	69	6.3	60.0	3
*Ellsworth	Ellsworth	35	n.s.	544	9	23	4.2	11.0	100.0
Newman Memorial County	Emporia	66	n.s.	757	16	56	7.4	3	1
*Mercy	Ft. Scott	100	n.s.	1,395	67	86	6.1	7.4	5.3
†St. Catherine's	Garden City	40	n.s.	735	3	Not given			
*St. Rose	Great Bend	75	n.s.	1,277	42	25	2.0	.....	.....
*Halstead	Halstead	170	n.s.	2,141	130	87	4.0	13.0	1
*Hays Protestant	Hays	36	n.s.	216	8	15	7.0	12.5	6
*St. Anthony's	Hays	100	n.s.	1,611	78	53	3.3	25.6	1
*Grace	Hutchinson	120	n.s.	2,458	23	94	3.8	40.0	6.6
*St. Elizabeth's Mercy	Hutchinson	50	n.s.	642	8	47	7.3	2	.....
†Mercy	Independence	85	n.s.	784	13	37	4.7	7.7	4.2
*Bell Memorial	Kansas City	220	n.s.	3,279	185	195	6.0	9.7	16.0
*Bethany Methodist	Kansas City	120	n.s.	2,638	62	150	5.6	173	88.7
*Providence	Kansas City	80	n.s.	1,350	19	76	5.6	24.0	17
*St. Margaret's	Kansas City	235	n.s.	2,170	95	193	8.8	47.3	14
Lawrence Memorial	Lawrence	52	n.s.	1,000	33	67	6.7	30.0	93.3
Cushing Memorial	Leavenworth	55	n.s.	761	10	34	4.5	1	75.0
*St. John's	Leavenworth	65	n.s.	710	5	48	6.7	3.0	.....
*Epworth	Liberal	42	n.s.	550	12	28	5.0	4	8.3
Park View	Manhattan	35	n.s.	692	2	22	3.2	.....	.....
*Axtell Christian	Newton	62	n.s.	749	22	31	4.1	32.0	.....
*Bethel Deaconess	Newton	48	n.s.	580	7	31	5.3	2	1
Ransom Memorial	Ottawa	44	n.s.	410	7	31	7.5	2	1
*Mt. Carmel	Pittsburg	75	n.s.	826	4	86	10.4	43.0	6.4
*St. Anthony Murdock Mem.	Sabetha	100	n.s.	983	13	27	2.7	50.0	1
Asbury Protestant	Salina	50	n.s.	761	22	71	7.2	30.0	1
*St. John's	Salina	55	n.s.	831	1	26	3.1	22.8	5.6
Sterling	Sterling	20	n.s.	304	92	12	4.0	100.0	7.7
*Christ's	Topeka	84	n.s.	1,151	46	84	7.3	.....	.....
*St. Francis	Topeka	75	n.s.	1,031	34	83	8.0	24.0	14.3
*Jane C. Stormont	Topeka	75	n.s.	1,247	46	59	4.7	17.6	13
*Hatcher	Wellington	25	n.s.	280	4	9	3.2	8.7	15
*St. Francis	Wichita	325	n.s.	3,141	79	217	7.0	1	11.0
*Wesley	Wichita	209	n.s.	3,067	30	133	4.3	54	25.0
*Wichita	Wichita	105	n.s.	1,637	80	90	5.5	20	15.0
*St. Mary's	Winfield	50	n.s.	729	13	33	4.5	15	16.6
*Wm. Newton Memorial	Winfield	42	n.s.	487	19	29	6.0	8	24.2
TOTAL	TOTAL	3,564		48,815	1,399	2,649	5.4	666	25.1
					2.8		261		88
					2.6		3		33.7

*—Approved by American College of Surgeons. †—Conditionally approved by American College of Surgeons. n.s.—Not specified.

Table 18
Cancer Treatment Facilities in Certain Kansas Hospitals—1933

Hospital	City	Bed capacity	Deep therapy in kv.	Mg. radium owned by hospital	Mg. radium owned by physician	Radium rented by physician	Perman'nt tissue sections	Frozen sections	Physician	Pathologist	Full or part time	Out-patient dept.	Teaching affiliation	Social service dept.
*Mercy	Arkansas City	40	No	No	No	No	No	No	No(1)	No	No	No	No	No
*Community	Beloit	50	No	No	No	No	No	Yes	No(2)	No	Yes	No	No	Yes
*Johnson	Chanute	50	250	75	No	No	Yes	Yes	No(3)	Full	No	Yes	No	No
*St. Joseph's	Concordia	65	No	No	30	No	No	No	No(1)	No	No	No	No	No
*St. Anthony's	Dodge City	80	No	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Susan B. Allen Memorial	El Dorado	44	No	No	No	No	No	No	No	Full(4)	No	No	No	No
*Ellsworth	Ellsworth	35	No	No	No	No	No	No	No(2)	No	No	No	No	No
*Newman Memorial County	Emporia	66	No	No	25	No	Yes	Yes	No(5)	Part	No	No	No	No
*Mercy	Fort Scott	100	No	No	115	No	Yes	Yes	Yes	Part	No	No	No	No
*St. Catherine's	Garden City	40	No	No	No	No	No	Yes	No(6)	No	No	No	No	No
*St. Rose	Great Bend	75	220	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Halstead	Halstead	170	No	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Hays Protestant	Hays	36	No	No	No	No	No	No	No	No	No	No	No	No
*St. Anthony's	Hays	100	No	No	No	Yes	No	Yes	No(7)	No	No	No	No	No
*Grace	Hutchinson	120	No	No	No	No	No	No	No(5)	No	No	No	No	No
*St. Elizabeth's Mercy	Hutchinson	50	No	No	No	No	Yes	Yes	No(5)	No	No	No	No	No
*Mercy	Independence	85	No	No	No	No	Yes	Yes	No(2)	No	Yes	Yes	Yes	Yes
*Bell Memorial	Kansas City	220	200	135	No	No	Yes	Yes	No(2)	No	No	No	No	No
*Bethany Methodist	Kansas City	120	200	80	105 (a)	No	Yes	Yes	No(2)	No	No	No	No	No
*Providence	Kansas City	80	150	105 (a)	105 (a)	No	Yes	Yes	No(2)	No	No	No	No	No
*St. Margaret's	Kansas City	235	200	No	105 (a)	No	Yes	Yes	Yes	Part	Yes	Yes	Yes	No
Lawrence	Lawrence	52	No	No	No	No	No	No	No(7)	No	No	No	No	No
*Cushing Memorial	Leavenworth	55	No	No	No	No	Yes	Yes	No(7)	No	No	No	No	No
*St. John's	Leavenworth	65	No	No	No	No	No	No	No(2)	No	No	No	No	No
*Epworth	Liberal	42	No	No	No	No	No	No	No	No	No	No	No	No
*Park View	Manhattan	35	No	No	No	No	No	No	No(8)	No	No	No	No	No
*Axtell Christian	Newton	62	No	42	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Bethel Deaconess	Newton	48	No	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Ransom Memorial	Ottawa	44	No	No	No	No	No	No	No(9)	No	No	No	No	No
*Mt. Carmel	Pittsburg	75	No	No	50	No	Yes	Yes	Yes	Part	No	No	No	No
*St. Anthony Murdock Mem.	Sabetha	100	No	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Asbury Protestant	Salina	50	150	No	No	Yes	Yes	Yes	Yes	Part	No	No	No	No
*St. John's	Salina	55	200	No	No	No	Yes	Yes	Yes	Part	No	No	No	No
*Sterling	Sterling	20	200	No	105	No	Yes	Yes	Yes(4)	Part	No	No	No	No
*Christ's	Topeka	84	No	No	50 (a)	No	Yes	Yes	Yes(4)	Part	No	No	No	No
*St. Francis	Topeka	75	No	No	50 (a)	No	Yes	Yes	Yes(4)	Part	No	No	No	No
*Jane C. Stormont	Topeka	75	No	No	50 (a)	No	Yes	Yes	Yes	Part	No	No	No	No
*Hatcher	Wellington	25	No	75	No	No	Yes	Yes	Yes	Part	No	No	No	No
*St. Francis	Wichita	325	200	No	105 (a)	No	Yes	Yes	Yes	Full	No	No	No	No
*Wesley	Wichita	209	150	No	105 (a)	No	Yes	Yes	Yes	Part	No	No	No	No
*Wichita	Wichita	105	No	No	105 (a)	No	No	Yes	Yes	Part	No	No	No	No
*St. Mary's	Winfield	50	No	No	No	No	No	Yes	Yes	Part	No	No	No	No
*Wm. Newton Memorial	Winfield	42	No	No	No	No	Yes	No	Yes	Part	No	No	No	No

*Approved by American College of Surgeons. *Conditional, approved by American College of Surgeons.
 (1) Tissues examined by Dr. C. A. Hellwig, Wichita. (2) Tissues examined by Dr. H. R. Wahl, Kansas City. (3) Pathologist is a D.V.M. (4) Tissues examined by Dr. J. L. Lattimore, Topeka. (5) Selected tissues examined by Dr. W. K. Trimble, Kansas City. (6) Selected tissues examined by St. Rose Hospital, Great Bend. (7) Selected tissues examined by Dr. W. K. Trimble, Kansas City. (8) Tissues examined by laboratories, Hutchinson, Manhattan. (9) Tissues examined by Duncan Laboratories, Kansas City, Mo. (a) Same radiologist visits all local hospitals and uses own radium.

Table 17

*County Distribution Cancer Cases Bell
Memorial Hospital—1932*

County	Number living cases	No. cases referred	% cases referred
Allen	84	4	4.7
Anderson	27	2	7.1
Atchison	63	3	4.7
Barber	36	—	—
Barton	60	—	—
Bourbon	69	—	—
Brown	45	3	6.6
Butler	93	3	3.2
Chase	12	—	—
Chautauqua	36	—	—
Cherokee	81	—	—
Cheyenne	18	—	—
Clark	3	—	—
Clay	63	1	1.6
Cloud	87	1	1.2
Coffey	42	1	2.4
Comanche	6	—	—
Cowley	126	—	—
Crawford	162	3	1.9
Decatur	18	—	—
Dickinson	87	—	—
Doniphan	36	—	—
Douglas	132	3	2.3
Edwards	33	1	3.2
Elk	39	—	—
Ellis	57	2	3.5
Ellsworth	30	—	—
Finney	21	1	5.0
Ford	48	1	2.4
Franklin	84	3	3.6
Geary	48	1	2.4
Gove	3	1	33.3
Graham	12	2	16.6
Grant	6	—	—
Gray	15	—	—
Greeley	3	—	—
Greenwood	57	2	3.5
Hamilton	9	—	—
Harper	48	1	2.4
Harvey	108	—	—
Haskell	—	—	—
Hodgeman	—	—	—
Jackson	51	1	2.0
Jefferson	45	3	6.6
Jewell	48	1	2.4
Johnson	54	10	18.5
Kearny	—	—	—
Kingman	24	—	—
Kiowa	12	—	—
Labette	105	1	0.9
Lane	6	—	—
Leavenworth	123	5	4.1
Lincoln	39	—	—
Linn	33	1	3.2
Logan	6	—	—
Lyon	66	1	1.5
Marion	69	2	2.9
Marshall	78	2	2.5
McPherson	87	—	—
Meade	6	—	—
Miami	87	1	1.1
Mitchell	48	—	—
Montgomery	147	4	2.7
Morris	24	3	12.5
Morton	3	—	—
Nemaha	60	1	1.6
Neosho	60	—	—
Ness	30	—	—

Norton	36	2	5.5
Osage	60	2	3.2
Osborne	36	1	2.7
Ottawa	15	1	6.6
Pawnee	39	1	2.6
Phillips	12	2	16.6
Pottawatomie	27	—	—
Pratt	21	—	—
Rawlins	18	1	5.5
Reno	180	—	—
Republic	57	—	—
Rice	57	—	—
Riley	66	2	3.0
Rooks	18	—	—
Rush	18	1	5.5
Russell	9	4	44.5
Saline	120	1	0.8
Scott	15	—	—
Sedgwick	564	1	0.2
Seward	39	1	2.6
Shawnee	399	2	0.5
Sheridan	12	1	8.3
Sherman	12	—	—
Smith	27	1	3.7
Stafford	42	—	—
Stanton	—	—	—
Stevens	9	—	—
Sumner	90	—	—
Thomas	21	—	—
Trego	12	1	8.3
Wabaunsee	27	1	3.7
Wallace	6	—	—
Washington	30	—	—
Wichita	—	—	—
Wilson	48	2	4.2
Woodson	36	1	2.7
Wyandotte	513	22	4.3
TOTAL	6,009	126	2.1

Information as to facilities for diagnosis and treatment of cancer in hospitals reporting in this survey has been summarized and appears in table 18:

x-Ray Equipment: Eight hospitals surveyed are equipped with *x-ray* apparatus of 200,000 volts or more, the voltage considered essential by the American College of Surgeons for acceptable cancer therapy and also recommended by those having the most experience in the use of deep therapy for treatment of malignant disease. Three other hospitals reported *x-ray* equipment of 150,000 volts. In some communities having no deep therapy in the hospital, it is available in the office of local physicians. In other hospitals without deep therapy, patients needing such treatment are referred to institutions where such facilities are available or to physicians with equipment and training in this form of therapy.

Radium: The following hospitals reported ownership of radium in the amounts indicated:

Johnson, Chanute	*75 milligrams
Bell Memorial, Kansas City.....	†135 "
Bethany Methodist, Kansas City..	80 "
Axtell Christian, Newton	42 "
Hatcher, Wellington	75 "
Total	407 "

In the following cities the indicated amount of radium is owned privately in addition to that owned by the hospitals:

Concordia	30 milligrams
Emporia	25 "
Fort Scott	115 "
Kansas City	105 "
Pittsburg	50 "
Sterling	105 "
Topeka	50 "
Wichita	105 "
Total	585 "

This gives a known total of 992 milligrams of medical radium in the state. There may be other small quantities owned by private physicians, but it is believed they are not large.

It has been estimated by cancer authorities that two grams of radium should be available for each million of the population, or each 1,000 deaths from the disease. On this basis there should be available an additional 3,000 milligrams of radium in Kansas to bring the total quantity to approximately 4,000 milligrams. The availability of medical radium in Kansas City, Missouri, would probably make unnecessary provision of the entire quantity mentioned above, as there is free use of hospitals in the Kansas City metropolitan area without regard to state boundaries.

Laboratory Facilities: Fifteen hospitals reporting in this survey are without laboratory equipment for satisfactory tissue work. Eleven of these, however, send all tissues to pathologists of recognized standing for examination. In others only special tissues are examined, all other tissues being discarded at operation. Four hospitals send tissues to a nonmedical pathologist for examination and interpretation. In one hospital the pathologist is a doctor of veterinary medicine. Ten hospitals have technicians in charge of laboratories, although some of these institutions refer special tissues to medical pathologists for examination.

Medically trained pathologists, including the veterinarian above, devoting all or a major portion of their time to laboratory

work, were found in Chanute, Kansas City, Salina, Topeka, and Wichita. An independent laboratory, conducted by a non-medical pathologist, was found in Hutchinson.

Autopsies: A wide variation is noted in the percentage of autopsies among the hospitals reporting in this survey. But two hospitals reported more than 50 per cent autopsies each. Fifteen, with 866 beds and 657 deaths, of which 43 were from cancer, six of which were autopsied, reported less than 15 per cent autopsies, the figure required by the American Medical Association for acceptable interne training. Twelve hospitals with 718 beds and 415 deaths, of which 63 were from cancer, reported no autopsies. In each of five hospitals with 226 beds, one autopsy was done during the year. In three of these the lone autopsy was of a cancer patient.

The highest percentage of autopsies was found in hospitals in Kansas City, all of which have their pathological work done by the Department of Pathology of the School of Medicine, Kansas University. Bell Memorial Hospital had the highest percentage in the state, 88.7, and St. Margaret's Hospital was next in line with 72.

Outpatient Service: Three hospitals reporting in this survey have organized outpatient departments. Two of these are in Kansas City, the other in Beloit. Several other hospitals maintain facilities for the return of ambulatory patients for observation or retreatment, but do not maintain organized dispensaries or outpatient departments. In the other communities the medical profession undertakes the care of indigent patients in their offices, thus obviating the necessity for outpatient departments in general hospitals.

Cancer Service: At the Bell Memorial Hospital, Kansas City, a tumor service organized in part along lines recommended by the American College of Surgeons has been functioning for several months. More recently a similar service has been in operation at St. Margaret's Hospital, Kansas City.

In the cities of Pittsburg and Winfield, private clinic organizations have undertaken a specialized cancer service. In these cities the members of the clinic have arranged with a radium therapist to visit the

*Since survey made 125 milligrams have been added.

†Since survey made 50 milligrams have been added.

clinic monthly, bringing his radium with him, to examine and treat such patients as are referred by other physicians for diagnosis. In neither city are these undertakings affiliated with local hospitals, and as far as our information goes, it is the intention of those promoting these services to use the hospitals only for such treatments as cannot be carried out in their private offices.

Social Service: In but two hospitals of the state were trained social workers found, and in neither of these was full-time given to cancer work. In smaller communities and smaller hospitals throughout the state, it was said that physicians were able to keep in close touch with their cancer patients by frequent contact with the patients or with friends or relatives.

In the department of gynecology of Bell Memorial Hospital, an effort is made to follow carefully all cancer patients indefinitely. To date good success was reported in this follow-up, less than one per cent of the patients being lost since the work began. These patients are contacted monthly for the first six months, bimonthly for six months, and quarterly for the next four years. Letters are sent to all patients and those not replying are looked up by other means.

Research: At the time of this survey no special research problems in the field of malignant disease were found under investigation in the state.

Teaching Affiliations: Bell Memorial Hospital, Kansas City, is the teaching hospital for the School of Medicine, Kansas University. St. Margaret's Hospital, Kansas City, is affiliated with the medical school for teaching purposes. Medical students were also found in other hospitals during the summer vacation, but the instruction received was on a purely voluntary basis, as the hospitals concerned had no official connection with the medical school.

Postgraduate Teaching: No organized program of postgraduate cancer education was found in the state. Members of the faculty of the medical school visit medical societies and hospital groups on invitation to present programs of which cancer is sometimes a leading subject.

State Department of Health: Participa-

tion of the state department of health in cancer work has been confined in recent years to one or two radio broadcasts on some cancer subject and to collecting and making public mortality records by the Division of Vital Statistics.

State Medical Society: A committee on control of cancer was organized by the Kansas Medical Society in 1916 and has been continued since that time as an annual committee. The chief purpose of this committee has been to keep the society informed on matters of interest in the cancer field and to stimulate presentation of papers before the annual state medical meetings.

CANCER PREVENTION AND CONTROL

General Considerations: In foregoing pages details of cancer facilities and service, as found by this survey in Kansas, have been set forth. Before discussing a program for prevention and control of cancer in Kansas, it may be well to consider briefly some general problems connected with this disease.

While mortality from heart disease is far greater than from cancer, it is probably true that cancer is the most lethal of all diseases in that it kills practically all its victims. It never terminates in recovery as do acute and contagious diseases. Unless treated early and adequately, chances of a fatal termination are almost 100 per cent. Authentic reports of spontaneous cessation of malignant growth are so few as to be medical curiosities and, according to Doctor James Ewing*, the number of authentic cures of cancer by means other than surgery, x-ray, or radium, or a combination of these, is equally rare.

Deaths from cancer are increasing annually. Statisticians may debate whether this increase is relative or actual, but this question is not of so much importance to those interested in prevention and control of the disease as is the fact that more people are dying of cancer each year.

Cancer is no respecter of social or economic groups. While it falls with more economically disastrous results on those in the small income class, as does all other incapacitating illness, it is found with equal frequency among the well-to-do. In

*Causation, Diagnosis, and Treatment of Cancer, page 85. The Williams and Wilkins Company, Baltimore, 1931.

this country the estimated annual loss from this disease due to death and incapacity is \$800,000,000.

There is no known specific etiology, although all scientific workers in the field believe that chronic or protracted irritation, either mechanical, chemical or thermal, is one of the principal causative factors. There is no accepted proof that heredity plays any important part in causing this disease, neither has environment any influence except in a few instances where occupation has shown a close relationship to cancer. Cancer of the bladder among aniline workers, chimney sweep's cancer, and tar cancer among petroleum workers, have all shown a rather close relationship to materials worked with.

Studies on the incidence of cancer have shown about three living cases to every death. Such surveys have also shown approximately three living cancer patients for each licensed physician. It is also interesting to note, although without significance, that there is approximately one cancer death annually for each licensed physician in a given state.

The only recognized treatment methods are surgery and irradiation by *x*-ray and radium, either singly or in combination. As far as known, every form of cancer is best treated by these methods. There is no occasion for a physician to use other forms of therapy because one of these methods may not be available. The interests of the patient dictate that under such conditions he should be sent where these facilities are available.

Treatment of cancer along lines recognized as adequate requires special facilities and equipment. For the present, many cancer patients will continue to be treated in local hospitals. As the profession and public become better educated to adequate cancer service, special institutions probably will be developed for these patients. In years past practically all tuberculosis patients were treated in general hospitals, but as knowledge of the disease increased, sanatoria were built where specialized treatment suitable to their condition, and not obtainable in general hospitals, could be given. Cancer and tuberculosis have much in common in this regard and doubtless in time treatment of cancer patients will be carried out largely in specialized

hospitals adequately equipped for their care. At this time facilities for adequate diagnosis and competent treatment of cancer are beyond the means of the average general hospital and private physician and can be provided only by generous contributions either from private sources or governmental agencies.

In addition to provision for treatment of the disease by one or more of the means mentioned previously, a well-rounded cancer program includes complete records of the service rendered and a follow-up system whereby the patients history is available over a period of years following treatment. These patients should be followed, if possible, during the remainder of their lives and all hospital cancer records should be kept open until the death certificate can be filed with them. In any event, this follow-up should be maintained for a minimum of five years if worth while evaluation of the treatment is expected.

Sufficient authentic evidence is now available that, when treated during its early stages; *i. e.* while the lesion is confined to its original site, and without evident metastasis, permanent relief is secured in a large percentage of cases. If the disease is first seen late in its course, the chances of permanent relief are very greatly reduced. It is believed that if present knowledge of the cause and cure of cancer were utilized fully by the public and medical profession, deaths from this disease could be reduced from one-third to one-half. Major emphasis on methods of controlling this disease should be placed on early recognition, and early adequate treatment. To accomplish this end, education of the two groups most concerned, the medical profession and the public, is necessary.

Education of Medical Profession: The medical profession should be taught to recognize cancer in its early stages and to give adequate treatment after the case is diagnosed. The final results rest largely with the first physician who sees the case. If he is not prepared to give or get the answer, the patient may drift along until all hope of permanent relief is lost.

The public should not be educated to want a service that the medical profession cannot supply for lack of training and ex-

perience in the cancer field, or because of lack of hospital facilities. Should this situation arise, the public may demand provision of this service under conditions over which the profession has little or no control. Such action would take this question out of the hands of the medical profession, where it properly belongs.

It is believed that, although the public has not yet taken a serious interest in cancer prevention and control, the time is not far distant when such an interest will be manifest. When this time comes, the medical profession should be ready to assume a larger responsibility in meeting the needs of the situation.

The time necessary to accumulate authentic information on cancer patients is so long, owing to the necessary protracted period of observation following treatment, that the education of a physician and his preparation for handling such cases must also be extended over a considerable period. The profession should keep this fact in mind and around it organize its educational activities in the cancer field so as to be ready for the larger part it surely will be called upon to play in the future control of cancer as well as to provide the best possible service for such patients at this time.

One requisite for improved cancer treatment is a more adequate training in acceptable diagnostic and therapeutic procedures. While cancer patients constitute but a small percentage of admissions to general hospitals, no other disease carries such a high mortality. For this reason cancer assumes an importance out of all proportion to the number of other cases seen in general medical practice, and when it is realized that cancer now occupies second place as a cause of death, and that it is assuming increasing importance in the public mind, the necessity for a more thorough knowledge of the disease by the medical profession is evident.

One method of bringing about a better appreciation of the cancer problem by the medical profession is by giving undergraduate medical students the best possible training in diagnostic and treatment procedure. Such students should understand biopsy technique and preferably assist in such work. They should follow tis-

suess through the laboratory and study the microscopic sections. They should be familiar with the history of the case and keep in touch with the follow-up and observation of the patient after treatment.

In speaking on this subject, Doctor James Ewing* has said:

Medical students carry a heavy burden of fundamental information about the basic sciences, but few of them ever see the various major forms of cancer in their early stages, and gain a competent knowledge of their differential diagnosis. They practice first rate chemistry, physics, and mechanics, but stand without adequate resources before the early diagnosis of the major cause of death. . . . The establishment of adequate opportunities for the study of cancer for undergraduate and graduate physicians is the first step to be taken by those seriously interested in the control of these diseases.

Postgraduate Teaching: Another necessary element in an improved service is the giving of postgraduate courses and holding of staff conferences on cancer cases. By these means physicians in active practice can obtain the latest information on this subject which should in turn be translated into an improved service for the cancer patient. No other group is so well fitted to take the leading part in a program of cancer control as the medical profession, but to merit and maintain this leadership, it must take advantage of all opportunities for furthering education of its members in this important field of medical practice.

The hospital staff conference offers one of the best opportunities for postgraduate education, as all parties to the diagnosis and treatment of the case are available for consultation and discussion. The pathologist can present evidence disclosed by the laboratory and the microscope. The roentgenologist can interpret the *x-ray* findings, and the diagnostician can contribute the result of his examinations. From these combined reports the best treatment of the patient can be developed and all features of the case made available for study and discussion.

In this connection the following quotation from Doctor James Ewing† is of importance and significance:

What constitutes a diagnosis of cancer, and by what means can it be accomplished. A diagnosis may be said to have been obtained when the clinician has been placed in command of data which will enable

*Causation, Diagnosis, and Treatment of Cancer, pp. 40-41. Williams and Wilkins Company, Baltimore, 1931.

†Causation, Diagnosis, and Treatment of Cancer, pp. 41-42. Williams and Wilkins Company, Baltimore, 1931.

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EDITORIAL

MUNNS APPOINTED SECRETARY

The Executive Secretary Committee appointed at the Wichita meeting has met on several occasions to consider the many applications that were received. Several applicants were requested to meet with the committee in Wichita, on June 24. After interviews with the applicants, the committee named Mr. Clarence Munns as the full-time executive secretary.

Mr. Munns is an attorney; graduate of the University of Kansas, class of 1930. He is a native Kansan, his home originally being in Hoisington. For the past four years he has been associated with the Phillips Petroleum Company in legal and credit activities with headquarters in

Bartlesville, Oklahoma, and St. Louis, Missouri.

The committee was of the unanimous opinion that Mr. Munns was the best qualified of the various candidates who applied, and his selection a fortunate one for the society. Every member should give his earnest support to the program which will be outlined for the secretary by the committee. Mr. Munns assumed his new duties on August 1.

The Executive Secretary Committee and the Executive Committee of the society met in joint session in Topeka, July 29. The Executive Secretary Committee approved Mr. Munns' visit to six states having full-time secretaries, during the month of August.

The committees also considered the question of the selection of the editor of the JOURNAL. On vote, the Executive Committee authorized the Executive Secretary Committee to name an editor and district editors.

Dr. H. N. Tihen, Chairman of the Executive Secretary Committee, will prepare a detailed report of the committee activities which will appear in the September JOURNAL.

MATERNAL MORTALITY

It has been generally considered maternal mortality in the United States is high; that it has shown very little change in a period of years. Moreover, only limited information was available, such as was contained in death and birth certificates and in more detailed studies of selected groups. The former were not sufficiently detailed to give a picture of the conditions contributing to the 16,000 deaths assigned annually in the United States to causes that are associated with pregnancy and childbirth.

At the 1926 conference of state directors in charge of maternal hygiene, the Chair-

man of the Children's Bureau Obstetric Advisory Committee presented a plan for a comprehensive study of maternal mortality. It was decided to undertake the study only in states which were in the birth-registration area and in which both the state medical society and the state board of health made formal request for it. The Children's Bureau prepared a schedule for securing histories of individual cases and summarized the final report¹ which was based upon personal interviews by physicians of the state health departments or of the Children's Bureau with the attending physicians. The survey included all maternal deaths which occurred in 13 states in 1927, and in these same states and two others in 1928.

In the 15 states during the years of the study, the deaths of 7,537 women were assigned to puerperal causes by the United States Bureau of the Census in accordance with the International List of Causes of Death. This number was 26 per cent of the 29,298 deaths from puerperal causes in the entire birth-registration area for these two years. There were 1,176,603 live births in the states during the years of the study and consequently the 7,537 deaths gave a maternal mortality rate of 64 per 10,000 live births; in the birth-registration area for 1927 and 1928 together the maternal mortality rate was 67.

The 7,537 deaths classified by the Bureau of the Census as due to puerperal causes included not only those originally so certified by the physician but those added as a result of answers to queries by the Bureau of the Census and by state Divisions of Vital Statistics. Of this total, 7,380 were found by means of interviews to have been actually puerperal in the meaning of the International Classification, while 157 were found to have been

nonpuerperal. Death certificates were signed in 7,046 cases by physicians; in 362 cases by coroners, and in 62 cases by others, while 67 certificates were not signed.

Deaths of colored women made up 18 per cent of those included in the study, and it was found the mortality rate of colored women was nearly twice that of the white women, 8.8 and 5.8 per 10,000 live births, respectively.

Nine per cent of all the deaths were of women who had had no medical care or care only when dying. Lack of medical care was not always associated with inaccessibility of the physician. The deaths of 4,066 occurred in hospitals, but deliveries or abortions of only 2,629 occurred in hospitals. Approximately one-third of the women died before they reached the last trimester of pregnancy. Puerperal septicemia was the most important cause of death prior to the seventh month and accounted for 59 per cent of the deaths in that period. Puerperal albuminuria and convulsions, however, equaled puerperal sepsis in importance in the last trimester, to each being attributed 51 per cent of the deaths.

It is a recognized fact that all pregnant women should receive prenatal care; in practice, it is seldom sought before the third month of pregnancy. Also prenatal care is not sought by women who are sufficiently hostile to their pregnancy to resort to self-induced or criminal abortions. As 1,154 of the 7,380 women had pregnancies which terminated before the third month, either spontaneously or intentionally, or had had later induced abortions other than therapeutic, there were 6,226 to whom it might reasonably be expected prenatal care would have been given. A report on prenatal care was obtainable concerning only 5,636, and 3,025 or 54 per cent had had no prenatal examination by a physician.

1. Maternal Deaths, a Brief Report of a Study made in 15 States: Children's Bureau, United States Department of Labor. Children's Bureau Publication No. 221, (abstract of complete report).

An attempt was made to grade the quality of prenatal care. Grade I included: (1) A complete physical examination; (2) pelvic measurements, internal and external, except in pregnancies terminating before the eighth month and for multipara who had had a previous normal delivery, and (3) regular monthly visits to a physician, beginning with or before the fifth month, with examination of urine and blood pressure at each visit. This care was received by only 725 women—13 per cent. Only 16 per cent of the total number had had a Wassermann test.

Abortion as used in the study was defined as the termination of a previable uterine pregnancy. Of the 2,381 deaths before the seventh month of gestation, 1,825 followed abortion. The type of abortion was reported in 1,588 cases, 794 were induced (other than therapeutic); 589 were spontaneous, and 205 (13 per cent) were therapeutic. Puerperal septicemia was the cause attributed after interview for deaths of 1,324 (73 per cent) of the 1,825 women who died following abortion. The 1,324 deaths from sepsis following abortion constituted 45 per cent of the total number of deaths from puerperal septicemia.

As a result of these studies the Advisory Committee concluded maternal deaths are due in large part to controllable causes; that the medical profession and the public must know the facts, and then each group should take appropriate and decisive action. Physicians must assume leadership in the field of maternal care and the general public must realize it is necessary for all women to have adequate supervision and medical care during pregnancy and labor, and the postpartum period, such supervision and care to begin early in pregnancy and be continuous throughout the postpartum period.

The report should be carefully read by every physician interested in obstetrics.

EDITORIAL COMMENT

Frederick L. Hoffman, LL.D., consulting statistician, reports the average homicide death rate in 1933 for 178 American cities was 10.4 per 100,000 population, the same as in 1932.

Miss Grace Abbott, Chief of the Children's Bureau, resigned effective July 1, 1934, and accepted the position of Professor of Public Welfare Administration at the University of Chicago.

It is reported that at the election for the Ontario legislature June 19, 1934, 11 physicians were among the successful candidates. They will constitute approximately 12 per cent of the total membership.

In the first year of the operation of the annual registration law, three physicians were found who had practiced from 17 to 40 years without being licensed. Each of these physicians had held membership in his local medical society.

The Obstetric Department of the University of Nebraska College of Medicine has created an Oliver Wendell Holmes Trophy. The award is to be made annually to the Councilor District showing the best record in obstetric mortality. (*Nebr. S. M. Jour.*, July 1934).

Dr. W. G. Paradis, Crookston, Minnesota, reports in a total population of 50,079 in the sanatorium district of Polk and Norman counties, Mantoux tests were given to 5,332 school children. Of 537 children who reacted to OT, 108 had positive x-ray findings, while of 246 who reacted positively to MA-100, 67 showed positive x-ray findings—an average of 22.3 per cent. (*Minn. Med.*, June 1934).

The 87 applicants who wrote the examination given by the Board of Medical Registration and Examination on June 19-20, made an average grade of 88 per cent. Dr. Robert Sohlberg, Jr., McPherson, graduate of Northwestern University Medical School, class of 1933, received the highest grade, 93.6. Included in the total of 99 physicians licensed by reciprocity or examination were the sons of eight Kansas physicians.

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

The Origin of Blood Cells

There seems to be a difference of opinion among authorities as to the origin of certain blood cells. They all agree that they have their start from the mesenchymal cells of the mesoderm of the embryo. Beyond that, however, there is a wide variation of opinion as to their origin.

To appreciate this subject one must consider the organs that are classified as comprising the hematopoietic system: The bone marrow, lymphatic system, spleen and the liver.

The bone marrow (the myelogenous system) which is normally composed of the marrow of the short bones furnishes the erythrocytes, the polymorphonuclear leukocytes (granulocytes) and blood platelets. The lymphatic system furnishes the lymphocytes. The reticulo-endothelial system furnishes the monocytes and certain transitional forms. It is not possible from the blood smears alone to differentiate the early stem cell as to the type of leukocyte that will result. The stem cell of the polymorphonuclear and the lymphocyte so closely resemble each other that it would be dangerous in that stage to state whether the resulting disease would be one of lymphatic or myelogenous disease. There are certain other ways that may help to clear the diagnosis, such as the sternal puncture for removal of bone marrow or a biopsy of a gland, but in certain cases a diagnosis cannot be made from the blood smear alone. There is less danger of confusing the stem cell of the monocyte for it is larger and irregular shaped and is termed the "histocyte." The stem cell of the polymorphonuclear and the lymphocyte are almost identical and must go on to a further stage of development before it can be identified. From this stem cell, in the myelogenous series follows the promyelocyte, then the myelocyte, metamyelocyte, the staff cell and the adult polymorphonuclear or granulocyte. In the normal individual, only the last two are

present in the circulating blood. In the lymphatic series, from the stem cell, we come to the large lymphocyte, the immature normal lymphocyte and the normal lymphocyte.

At present a third leukemia is now accepted. Until comparatively recent, only myelogenous and lymphatic leukemia were accepted; now monocytic leukemia is considered as a separate disease. Further myelogenous leukemia is sometimes divided into the ordinary myelogenous leukemia and the myeloblastic leukemia, merely indicating the presence of an excessive number of early myelocytes. In monocytic leukemia, the essential pathology is in the reticulo-endothelial system (liver-spleen-bone marrow).

The stem cell or original red cell is the megaloblast which is a large nucleated cell. At this stage, they contain no hemoglobin and have a rather deep basophilic cytoplasm. As the cell matures into the ordinary normoblast, it loses most of its basophilic cytoplasm, takes on some hemoglobin, becomes smaller in size, the nucleus is more regular and with a more adult stage it becomes the ordinary erythrocyte.

In a recent case under my observation, I had what appeared to be a very high white count in a baby. Further investigation revealed that this patient had enormous numbers of megaloblasts circulating in the blood stream. The ordinary acetic acid diluting fluid would not dissolve the nucleus of the megaloblasts, so I was counting these cells as leukocytes. This patient had approximately 10,000 megaloblasts in the circulating blood.

With detailed study of suitable stained slides using differential stains, and the sternal puncture, most cells can be classified into one of the above groups. I think it is impossible at times, however, to make a diagnosis of a leukemia of the lymphatic type, merely because there is a high white count and a great number of lymphocytes. I have observed white counts as high as 75,000 with 97 per cent lymphocytes that result in other conditions than leukemia.

RECENT MEDICAL LITERATURE

Edited by

WILLIAM C. MENNINGER, M.D., Topeka

COLONIC IRRIGATION AFTER A BARIUM ENEMA

The discovery of some opaque substance as a means of visualizing the alimentary canal roentgenographically has given new impetus in gastro-enterology, but it also has created some dangers. Three problems in roentgenological diagnosis of gastro-intestinal difficulties are: (1) The endeavor to find a non-toxic or least toxic medium; (2) the clinical mapping out of contraindications, and (3) the recognition of possible mishaps, their prophylaxis and treatment. Barium sulphate has been considered the best opaque medium, but occasionally there are mishaps due to its use. There are cases of accidental poisoning due to the impurity of the drug, the presence of barium salts which are soluble and therefore poisonous. Occasionally ulcer perforation results from direct ingestion of the barium. The retention and hardening of the opaque medium, barium, is another grave danger. The author points to a number of severe gastric symptoms as contraindication of the use of a barium meal. He also advocates the routine administration of a saline enema immediately after a barium enema, and oil orally for several days to insure the complete evacuation of the barium suspension.

Golob, Meyer: The Advisability of Immediate Colonic Irrigation Following a Barium Enema. *Radiology*, 22:486-489. April 1934.

REVISING THE CONCEPTION OF FOCAL INFECTION

A focus of infection has been defined as a circumscribed area of tissue infected with pathogenic organisms. The general recognition that such can cause systemic or general disease makes its elimination a part of the treatment of the disease. Attention seems to be concentrated on the infected tissue rather than on the infecting bacteria. When a physician speaks of eradicating a focus of infection he means the removal of infected tissue, such as tonsils, adenoids, or teeth, but this does not insure the removal of infection, as the tissue surrounding the so-called "focus of infection" is usually infected also.

Therefore the term "removal of focus of infection" or its equivalent when tonsillectomy, adenoidectomy, appendectomy, are meant should be avoided. If the focus of infection is actually the concentration of bacteria, then surgery alone cannot remove it. Its eradication will depend on the production of antibodies, which in some cases may be stimulated by vaccines.

Solison-Cohen, Myer: Necessity for Revising the Common Conception of Focal Infection. *J.A.M.A.* 102: 1128-1131. April 7, 1934.

CONGESTIVE HEART FAILURE

The dyspnea of cardiac disease is a complex symptom occurring under a variety of circumstances and producing a multiplicity of clinical syndromes. Clinical observations were made on 30 patients, 19 men and 11 women; about half were negroes and the other half white; only five were under 40 years of age. They all had cardiac disease and suffered from nocturnal dyspnea. The chief causes of the heart disease were hypertension, arteriosclerosis and syphilitic aortic insufficiency. The occurrence of nocturnal dyspnea was restricted almost entirely to patients with disorders which cause a strain on the left ventricle. The following factors were found to be precipitating and predisposing causes of the attacks: (1) The position of the body in 21 cases; (2) cough in 23 cases; (3) amount of activity engaged in during the preceding day in 21 cases; (4) abdominal distension in 17 cases; (5) large evening meal in 12 cases; (6) constipation in 12 cases; (7) hunger in eight cases; (8) heat in eight cases, and (9) urination in seven cases.

Nocturnal dyspnea may be divided into several types of distress: (1) A non-paroxysmal type which develops gradually during the day and reaches a maximum at bed time. (2) Attacks of shortness of breath appearing only at the onset of sleep. If the patient falls asleep, he is likely to remain free from symptoms the rest of the night and such patients exhibit Cheyne-Stokes respiration. (3) Attacks of dyspnea that begin after the patient has begun to sleep soundly and which may cause acute edema of the lungs. Cheyne-Stokes respiration is infrequent in this type of dyspnea. (4) Combination forms. The same patient may have all three types

of dyspnea, or any two of them.

Harrison, W. G., Calhoun, J. A., and Harrison, T. R.: Congestive Heart Failure. Arch. Intern. Med., 53:561-573. April 1934.

EXTERNAL TRAUMA IN ULCERS

The author states that in spite of the fact that our knowledge of the pathogenesis of peptic ulcer still remains in the field of theoretical discussion, we are occasionally called upon to decide whether or not an injury to the upper abdomen can lead to the formation of a peptic ulcer. Theoretically, a sudden blunt force applied to the area might lead to changes within the gastric wall. The finding of ulcers after such an injury raises the question of whether the trauma was a precipitating factor or a revealing factor of the ulcerous condition. A number of cases of peptic ulcer associated with external trauma are reported and the following conclusions are drawn:

1. Acute traumatic peptic ulcer may follow the application of a strong blunt force to the epigastrium. These cases tend to heal.

2. External trauma as a pathogenic factor in chronic peptic ulcer is debatable. Probably trauma does not produce, but rather, reveals the preexistence of chronic peptic ulcer.

3. Preexisting ulcer disease may be aggravated by external trauma. To prove the extent of the disability resultant, a careful x-ray examination would have to be made within a short time before the accident, and compared with a careful x-ray examination made within a short time after the accident.

Gray, Irving: External Trauma in Relation to Ulcers of the Stomach and Duodenum. Ann. Int. Med., 7:1403-1420. May 1934.

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The *Journal of the American Medical Association* reports the Federal Trade Commission has filed a complaint charging misrepresentation in connection with the sale of acetylsalicylic acid tablets against the Bayer Company, Inc., New York. It is stated "The commission alleges that the company's advertising tends to mislead buyers into believing that 'Bayer aspirin' is the only genuine acetylsalicylic acid, intimating that the product sold by its competitors is not 'aspirin', is not as beneficial as the Bayer product, and is counterfeit or spurious."

PROCEEDINGS OF SEVENTY-SIXTH ANNUAL MEETING

(Continued from July Journal)

REPORT OF COMMITTEE ON HOSPITAL SURVEY

Much of the data embodied in this committee's report is derived from the annual report of the Council on Medical Education and Hospitals of the American Medical Association. This report appears each year in the Hospital number of the *Journal of the American Medical Association*.

There are 127 registered hospitals in the State of Kansas and 26 hospitals which have been refused registration because of failure to meet the minimum requirements of the American Medical Association.

Scanning the annual reports for the past ten years brings out certain interesting facts regarding the hospitals of Kansas which the committee feels may well be brought to your attention.

The following table sets forth trends in hospitalization during the past decade:

	Hospitals		Beds & Bassinets		Av. census	
	1923	1933	1923	1933	1923	1933
Governmental	38	35	6540	9396	5492	7538
Non-Governmental	111	92	4390	5236	2547	2221

During the past ten years in Kansas, governmental hospitals have added over three times as many beds as have non-governmental agencies, and during that same period the average daily census in governmental hospitals increased 50 per cent while in non-governmental hospitals it decreased 12 per cent. However, approximately three-fourths of the capacity of all the governmental hospitals is for tuberculosis and mental diseases.

In the governmental hospitals the average length of stay in the hospital of each patient in 1933 was 106 days, while in the non-governmental hospitals it was only 13 days.

The number of idle beds daily in the non-governmental hospitals of Kansas in 1933 reached the astounding number of 3,015. In other words only 42.4 per cent of the non-governmental hospital beds of the state were filled and this in contrast to 80 per cent full occupancy of the governmental hospital beds.

However, governmental hospitals admitted only approximately 30 per cent of all hospital patients and the non-governmental institutions about 70 per cent.

There are five hospitals in the state approved for general internships and two approved for residencies in specialties.

Fifty-two hospitals in Kansas have physicians at the head of their pathological laboratories and 67 have M.D.'s in charge of their radiological department.

The non-governmental hospitals have been hard hit by the depression. The loss of income plus the cost of maintaining 3,015 idle beds has placed many of these hospitals in financial difficulty. Many people who would in ordinary times make up a considerable proportion of the paying patronage of the hospital are forced to enter tax-supported institutions. At the same time non-pay hospitalization and delinquency in payments have materially increased. At the present time Kansas certainly needs no new hospitals.

In an effort to meet their financial difficulties many hospitals in the country have already inaugurated group payment plans for hospital care. For the hospital this provides a regular and assured income. The principle of group payment for hospital care has been endorsed by New York and New Jersey State Medical societies and the Cleveland Academy of Medicine. The State Medical Associations of California, Oregon, Washington, and Michigan have gone further and approved, not only group hospitalization, but also the insurance principle for general medical service. The American Hospital Association endorsed the group hospitalization plan a year ago. Kansas now has one hospital with this plan in effective operation. This is the Wesley Hospital in Wichita.

This movement will undoubtedly become somewhat general and inasmuch as some plans carry potential dangers of actual medical practice by these institutions your committee would urge this society to go on record as recommending any such plan only with the following provisions:

1. The benefits to be offered by the hospital must not invade the field of the

practice of medicine.

2. Medical and surgical fees should in no manner be included in the plan.

3. It should be a community project and all hospitals of a given community should participate in such a way as to eliminate any tendency towards competition and to allow patients freedom of choice of hospital and physicians.

Respectfully submitted

E. S. EDGERTON, M.D., Chairman

D. W. BASHAM, M.D.

R. W. VAN DEVENTER, M.D.

REPORT OF COMMITTEE ON MEDICAL HISTORY

In rendering a report at this time the committee would call attention to the fact that the latest photograph and biography secured for the history album is that of our president for 1934, William F. Bowen, M.D., of Topeka. The album is on file in the vault of the office of the Journal of the Kansas Medical Society, 700 Kansas Avenue, Topeka.

No further efforts have been made to secure photographs of John Parsons, M.D., who was elected president in 1868 and H. K. Kennedy, M.D., who was elected president in 1875.

Respectfully submitted,

W. S. LINDSAY, M.D., Chairman

E. D. EBRIGHT, M.D.

H. C. SARTORIUS, M.D.

REPORT OF COMMITTEE ON SCIENTIFIC WORK

For our report I take great pleasure in presenting the annual program which was entirely prepared by the Sedgwick County Medical Society and trust that all of you have enjoyed it.

Respectfully submitted,

J. F. HASSIG, M.D., Chairman.

REPORT OF THE COMMITTEE ON THE STORMONT LIBRARY

During the past year the Library Committee has followed the very conservative policy of buying only a few new books. Subscriptions to Journals have been continued which include the following:

American Journal of Diseases of Children.

American Journal of Medical Science.

American Journal of Public Health.

Annals of Surgery.

Archives of Internal Medicine.

Archives of Surgery.

Journal of the American Medical Association.

Journal of the Kansas Medical Society.

Journal of the Missouri Medical Association.

Lancet (London).

Medical Journal and Record.

Quarterly Cumulative Index.

Surgery, Gynecology and Obstetrics.

The report of last year showed \$105.20 in the treasury; at present the amount on hand is \$114.53. The expense for magazine subscriptions amounts to about half of the yearly income. There is another installment of interest due about July 1.

The attention of the members of the society is called again to the fact that these magazines are all available for loan by paying the postage and it is hoped that periodicals will be used more during the coming year by men all over the state.

Respectfully submitted,

W. C. MENNINGER, M.D., Chairman.

The roll was called and there were 76 votes present.

UNFINISHED BUSINESS

The following amendments to the Constitution were presented for final action, having been read before the House of Delegates at the 1933 meeting.

That Article X of the Constitution shall be amended by adding at the end of Section 1, the following, "No member of the Council shall serve for more than two consecutive terms of office of three years each."

That Section 3, Article VI of the Constitution shall be amended to read as follows, "The Councilors shall be twelve in number and one shall be elected from each Councilor District by the Delegates from that district at the annual meeting each year, and shall serve for such terms as hereinafter provided."

On a rising vote both amendments unanimously carried.

The next order of business was the question of a full-time secretary.

Dr. H. N. Tihen made a motion that the House of Delegates hereby creates the office of a full-time Executive Secretary for our State Society, the Secretary

to be located in the central State Society office in Topeka, moved its adoption which was regularly seconded. After much discussion the motion carried.

On motion by Dr. L. B. Gloyne, regularly seconded and carried that the annual dues for 1935 be raised from \$7.00 to \$10.00.

Dr. H. F. Hyndman presented the following resolution which unanimously carried.

"The House of Delegates having declared itself in favor of a full-time Executive Secretary for the State Society; hereby instructs Doctors Tihen and Nesselrode to select three additional names for the formation of the Executive Secretary Committee. The committee of five is instructed to select and hire a full-time secretary for the State Society; to install him in suitable office space with adequate stenographic help, and to aid and direct him and his activities until the next annual State meeting. The House of Delegates further instructs the officers of the Society and the Council to appropriate, as needed, the necessary funds to carry out these plans and activities until the next annual State meeting."

(Committee membership increased to seven second meeting of House of Delegates on Friday).

Dr. Duncan brought up the subject of Public Health Council of Kansas and introduced Dr. Harry Lutz of Augusta who outlined the plan and recommended that the Kansas Medical Society endorse it.

On motion by Dr. L. D. Johnson, regularly seconded and carried, the Kansas Medical Society adopted the Public Health Council.

Adjourned.

MEETING OF HOUSE OF DELEGATES

Friday, May 11, 1934

The meeting was called to order by the President, Dr. Wm. F. Bowen, at 8:10 a. m. in the Ingalls room, Allis Hotel. The roll was called and 59 votes were present.

The first order of business was the election of officers. The following were elected:

President-elect, Dr. J. F. Hassig, Kansas City.

Vice President, Dr. H. L. Snyder, Winfield.

Treasurer, Dr. Geo. M. Gray, Kansas City.

Constitutional Secretary (unexpired term of one year), Dr. H. L. Chambers, Lawrence.

Immediately after being chosen President-elect, Dr. J. F. Hassig tendered his resignation as secretary.

Delegate to American Medical Association: (term 2 years), Dr. Wm. F. Bowen, Topeka.

On motion by Dr. Tihen, regularly seconded and carried, that the delegates from the third, sixth, tenth, and twelfth districts retire to another room and elect their councilor. The following councilors were elected:

Third district, Dr. E. C. Duncan, Fredonia.

Sixth district, Dr. H. N. Tihen, Wichita.

Tenth district, Dr. C. D. Blake, Hays.

Twelfth district, Dr. N. E. Melencamp, Dodge City.

STANDING OF COUNCIL

District	Councilor	Term Expires
First	Dr. R. T. Nichols, Hiawatha	1936
Second	Dr. L. F. Barney, Kansas City	1936
Third	Dr. E. C. Duncan, Fredonia	1937
Fourth	Dr. O. P. Davis, Topeka	1935
Fifth	Dr. J. T. Axtell, Newton	1935
Sixth	Dr. H. N. Tihen, Wichita	1937
Seventh	Dr. C. C. Stillman, Morganville	1936
Eighth	Dr. Alfred O'Donnell, Ellsworth	1936
Ninth	Dr. H. O. Hardesty, Jennings	1935
Tenth	Dr. C. D. Blake, Hays	1937
Eleventh	Dr. C. H. Ewing, Larned	1935
Twelfth	Dr. N. E. Melencamp, Dodge City	1937

REPORT OF COMMITTEE ON CONTROL OF CANCER

Dr. Nesselrode made an oral report for the Committee stating the report would be published in an early issue of the JOURNAL and submitted the following recommendations:

First—An expression of appreciation from the House of Delegates be extended to the American Society for the Control of Cancer and to Dr. F. L. Rector, their Field Representative for the excellent work done in making the cancer survey.

Second—That the Kansas Medical Society approve the report in principle at least.

Third—That the Committee on the Control of Cancer of the Kansas Medical So-

ciety continue its work and that the members of the committee be increased to nine. The President to appoint four additional members for one, two, and three year terms, one-third retiring each year.

After reading Dr. Nesselrode moved the adoption of the above recommendations.

After much discussion Dr. Hyndman introduced the following substitute motion which was regularly seconded and carried. That the Committee on Control of Cancer continue their work and publish the report in the JOURNAL before the next annual meeting in order that the members of the Kansas Medical Society may have an opportunity to study it. Also, that the committee be enlarged from five to nine, the President to appoint an additional four men to serve for one, two, and three year terms on the committee, one-third retiring each year and that the other recommendations of the committee be tabled.

The President, Dr. Bowen, made the following appointments:

Name	Term Expires
Dr. C. C. Nesselrode, Kansas City	1937
Dr. J. L. Lattimore, Topeka	1937
Dr. F. Foncannon, Emporia	1937
Dr. H. L. Snyder, Winfield	1936
Dr. F. R. Crosen, Clay Center	1936
Dr. N. E. Melencamp, Dodge City	1936
Dr. J. G. Missildine, Wichita	1935
Dr. Milton B. Miller, Topeka	1935
Dr. Alfred O'Donnell, Ellsworth	1935

A motion was made, regularly seconded and carried, that the committee on executive-secretary be increased from five to seven.

Committee: Dr. H. N. Tihen, Wichita; Dr. C. C. Nesselrode, Kansas City; Dr. W. M. Mills, Topeka; Dr. H. L. Snyder, Winfield; Dr. N. E. Melencamp, Dodge City; Dr. W. F. Bernstorff, Pratt; Dr. L. D. Johnson, Chanute.

A motion was made by Dr. Hyndman, regularly seconded and carried, that the President appoint a committee of five to study the Constitution and By-Laws of our present organization and make any suggestions for any desirable revision at the next annual meeting of our Society.

Committee: Dr. J. F. Hassig, Kansas City; Dr. H. L. Chambers, Lawrence; Dr. Earle G. Brown, Topeka; Dr. E. C. Duncan, Fredonia; Dr. G. R. Hastings, Lakin.

A motion was made by Dr. Hyndman,

regularly seconded and carried that the Committee on Public Policy and Legislation be authorized to take up with the proper authorities any complaints of any member of the society concerning army officers or full-time state employees doing private practice.

A motion was made by Dr. Tihen, regularly seconded and carried, since the employment of a full-time executive secretary necessitates the re-arrangement of some of the society work, the House of Delegates instructs the officers to discontinue the salaries of the Constitutional Secretary, the Editor, and the Defense Fund Chairman at the time of the installation of the Executive-Secretary, and instructs the President of the State Society, and the Executive Secretary Committee, and the Executive Committee of the Council to appoint an editor and district editors serving gratis, who with the Executive Secretary Committee will direct the JOURNAL activities until the next annual state meeting.

Dr. O. P. Davis introduced the following proposed amendment to the Constitution:

That Article XIII of the Constitution be amended by adding thereto Sections 3 and 4 as follows:

Section 3. All interest or other income accruing from the investment of all or any part of the Defense Fund shall be added to and become a part of said Defense Fund.

Section 4. If or when the Defense Fund shall have accrued to an amount in excess of ten thousand dollars and two dollars per capita collected annually for defense shall be deducted from the annual membership dues until said Defense Fund shall have been reduced to not less than five thousand dollars, whereupon the collection of two dollars per capita for defense shall be resumed.

A motion was made by Dr. O. P. Davis, regularly seconded and carried, that the Treasurer, Dr. Geo. M. Gray, be instructed to lend from the Defense Fund to the General Fund at a low rate of interest a sum sufficient to make the state dues for each individual member of the Society next year \$8.00 instead of \$10.00, based on the total 1934 membership.

A motion was made by Dr. Barney, regularly seconded and carried that the House of Delegates express their appreciation by a rising vote of thanks to the members of the Sedgwick County Medical Society who have been untiring in their work to make this meeting a great success and also for their wonderful hospitality.

A motion was made by Dr. Armitage, regularly seconded and carried, that the Committee on Public Policy and Legislation investigate the possibility of prosecuting the cults who are practicing medicine and surgery and test out the law if deemed advisable.

A motion was made by Dr. Brookhart, regularly seconded and carried, that the Committee on Public Policy and Legislation be authorized to hire competent lawyers and that the necessary cost for expenses be approved.

A resolution from the Chicago Medical Society concerning radio advertising was read by the Secretary, who moved its adoption which was regularly seconded and carried.

JOINT MEETING OF COUNTY SECRETARIES AND COUNCILORS

This meeting was held Wednesday, May 9, in the Ingalls room, Allis Hotel with Dr. J. F. Hassig, presiding.

Present: Doctors J. A. Milligan, Garnett; F. L. DePew, Howard; W. E. Janes, Eureka; Ralph I. Canuteson, Lawrence; H. E. Haskins, Kingman; W. N. Mundell, Hutchinson; E. H. Johnson, Peabody; C. B. Stephens, Iola; A. G. Isaac, Newton; A. M. Lohrentz, McPherson; J. A. Rader, Caney; H. L. Clarke, LaCygne; O. W. Davidson, Kansas City; H. J. Stacey, Leavenworth; F. K. Meade, Hays; J. M. Porter, Concordia; L. V. Dawson, Ottawa, and H. W. Palmer, and Mr. Mac F. Cahal, Wichita.

Doctors E. C. Duncan, Fredonia; O. P. Davis, Topeka; Alfred O'Donnell, Ellsworth; I. B. Parker, Hill City; J. T. Axtell, Newton; C. C. Stillman, Morganville; L. F. Barney, Kansas City; R. T. Nichols, Hiawatha; Geo. M. Gray, and J. F. Hassig, Kansas City.

Several talks were made but the most interesting topic seemed to be the care of the indigent poor under the Franklin

County plan which was well presented by Dr. L. V. Dawson.

A motion was made regularly seconded and carried that another meeting be held next year.

Meeting adjourned.

COUNCIL MEETING

The new Council met and organized in the Ingalls room, Allis Hotel, immediately following the meeting of the House of Delegates. The meeting was called to order by the President, Dr. Wm. F. Bowen.

The first order of business was the report of the Editor, Dr. Earle G. Brown.

FINANCIAL STATEMENT OF THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

Receipts and disbursements by the Editor from May 1, 1933, to May 1, 1934.

Receipts	
Journal advertising	\$3,748.21
Sales and subscriptions	80.93
Kansas Medical Society	2,800.00
Electrotypes	146.77
Reprints and other sources	15.54
	<hr/>
Balance May 1, 1933	573.64
	<hr/>
	\$7,365.09
Accounts receivable	563.20
	<hr/>
	\$7,928.29
Deficit as of May 1, 1934	348.63
	<hr/>
	\$8,276.92
Expenditures	
Journal printing	\$2,045.22
Stock and stationery	578.00
Salaries and wages	3,780.00
Postage	173.61
Electrotypes	115.11
Office rent	277.50
Telephone	86.33
Insurance	4.94
Taxes	3.70
Delivering Journals in Topeka	16.81
Drayage	3.50
Office supplies and misc.	98.36
	<hr/>
	\$7,183.08
Accounts payable	388.84
Salaries due	705.00
	<hr/>
	\$8,276.92

REPORT OF THE EDITOR OF THE JOURNAL OF THE KANSAS MEDICAL SOCIETY

To the Officers and Members of the Council of the Kansas Medical Society:

Gentlemen: I submit herewith the report of the JOURNAL of the Kansas Medical Society for the period of May 1, 1933, to May 1, 1934, inclusive.

I am glad to report the JOURNAL did not require as much financial assistance from the Society during the year May 1, 1933, to May 1, 1934, as the previous fiscal year; \$725.00 less was drawn this past year from the General Fund than the year before. In other words we used approximately the sum the JOURNAL would be entitled to if paid \$2.00 per member.

Our advertising receipts for the past year increased \$383.75 and we have every reason to believe they will continue to increase during 1934. It might be of interest to note that from our total advertising receipts \$3,748.21, the JOURNAL office was responsible for \$1,849.67 of this amount. In this connection I might mention an earnest effort has been made throughout the year to secure as much local advertising as possible. Receipts from electrotypes increased \$57.48. Since each author pays for illustrations in his article this total item of \$146.77 is a saving for the JOURNAL.

Office rent is \$127.50 more, but is due to the fact the entire amount is now drawn from the JOURNAL account. Prior to March, 1933, one-half was paid from the Bureau of Public Relations account. The JOURNAL report last year contained an item of \$126.50 for office equipment. No purchase of this nature has been made since May, 1933, in fact the JOURNAL office has continued to operate on as conservative and economical basis as possible. Stock and stationery is \$33.52 less and at the present time there is enough paper to take care of the JOURNAL until early fall.

The JOURNAL for May, 1933, carried 35 professional card advertisements. The May 1934 number has 47—an increase of 12. In addition to the professional card space for members of the society we have added a page for Prescription Pharmacies. Up to the present time ten spaces have been sold, leaving only two vacancies on this page. We are confident these spaces will be filled within a short time.

Advertising receipts usually drop during the summer months. However, they have been increasing steadily since the first of the year and the Cooperative Medical Advertising Bureau representative who visited us a few days ago assured us there is a decided increase in business in

the East and that no doubt we will benefit from this within a very short time.

A few interesting comparisons have been made in the JOURNAL. From May 1933-1934, 88 original articles were published. This figure includes 12 University of Kansas Medical School Clinics, 11 Case Reports, six messages from the President and six Letters From a Kansas Doctor to His Son. A year ago 80 original articles had been published, including 12 clinics, seven messages from the President, nine Letters From a Kansas Doctor to His Son and no Case Reports. Sixty Society reports were published from May 1932-1933. This year we have an increase of four. From May 1932-1933, 36 editorials and 86 editorial comments had been published. This year 32 editorials and 146 editorial comments, an increase of 60 editorial comments. One Cancer Number was published last year—July, 1933.

At the Council meeting in January of this year a motion was made to discontinue mailing the JOURNAL in envelopes until the annual meeting. This has been complied with and up to the present time no complaints have been received. We have, however, mailed our advertisers copies in envelopes and have in the neighborhood of three or four thousand on hand. I would like to know, or have a recommendation from the Council, whether or not we should continue to mail the JOURNAL without envelopes.

It has been my endeavor to keep the cost of the JOURNAL as low as possible, and the quality of its contents up to and above the average.

Respectfully submitted, .
EARLE G. BROWN, M.D., Editor.

FINANCIAL STATEMENT OF THE BUREAU OF
PUBLIC RELATIONS OF THE KANSAS MEDICAL
SOCIETY

Receipts and disbursements from May
1, 1933, to May 1, 1934.

Receipts	
Sales and subscriptions.....	\$100.00
Kansas Medical Society.....	255.79
Advertising	2.00
	<hr/>
	\$357.79
Accounts receivable	37.07
	<hr/>
	\$394.86

Expenditures	
Salaries	\$ 50.00
Drayage	2.00
	<hr/>
	\$ 52.00
Deficit May 1, 1933.....	\$342.86
	<hr/>
	\$394.86

REPORT OF BUREAU OF PUBLIC RELATIONS OF
THE KANSAS MEDICAL SOCIETY

The Bureau of Public Relations had no instructions from the House of Delegates as to its responsibilities from May, 1933, to May, 1934. During this period a strenuous effort has been made to collect all outstanding accounts for Folks magazine, which sum of \$139.07 was reported to the House of Delegates last May. Up to May 1, 1934, this entire amount was collected with the exception of \$37.07, as shown by our financial statement. However, we are glad to report that after closing the books we received a check for this sum, on May 4, which now balances the books of the Bureau of Public Relations up to date.

Respectfully submitted,
EARLE G. BROWN, M.D., Executive Sec'y.
Reports accepted and placed on file.

Following the reading of the reports Dr. Brown resigned as Editor of the JOURNAL. A motion was made by Dr. Davis, regularly seconded and unanimously carried, that Dr. Brown's resignation be accepted and that the Society extend its thanks and appreciation to Dr. Brown and Miss Carlson for their splendid work.

Other Councilors made short talks saying that they appreciated and most heartily commended Dr. Brown and Miss Carlson for their efficient work and it was their earnest wish that Miss Carlson be retained in the JOURNAL office.

Dr. Alfred O'Donnell extended an invitation to the Kansas Medical Society to hold its 1934 meeting at Salina and on motion by Dr. Davis, regularly seconded and carried, the invitation was accepted.

A motion was made by Dr. Stillman, regularly seconded and carried, that the annual meeting be held on Wednesday, Thursday, and Friday, May 8th, 9th, and 10th, 1935.

A motion was made by Dr. Gray, regularly seconded and carried, that the Jour-

NALS continue to be mailed without envelopes.

A motion was made by Dr. Barney, regularly seconded and carried, that the Kansas Medical Society continue to mail city libraries the JOURNAL.

The Secretary informed the Council that Edwards and Comanche counties had formed county medical societies complying with our Constitution and By-laws and that each was desirous of a charter. A motion was made by Dr. Barney, regularly seconded and carried, that the two counties be issued charters.

A discussion arose as to the number of members required for newly organized county societies and Dr. Stillman made a motion, regularly seconded and carried that the minimum number for a new society should be six members.

Dr. Stillman was reelected a member of the Defense Board for a term of three years. Dr. Duncan was elected to fill the unexpired term of two years of Dr. Fee.

STANDING OF DEFENSE BOARD

Dr. O. P. Davis, Topeka.....	1935
Dr. E. C. Duncan, Fredonia.....	1936
Dr. C. C. Stillman, Morganville.....	1937

The Secretary presented a statement covering his salary for the past year and expense since January 8, 1934.

SUMMARY

Stenographer's salary	\$ 300.00
Stamps	75.00
Long distance and telegrams	9.47
Miscellaneous	11.50
Secretary's salary for past year	
(5/1/33 to 5/1/34)	1,000.00
	<hr/>
	\$1,395.97

Dr. Axtell made a motion regularly seconded and carried that the bill be allowed.

In compliance with the agreement made at the mid-winter meeting of the Council, the matter of guest speakers and other expense for the Wichita meeting was discussed and Dr. Duncan made a motion, which was regularly seconded and carried, that the amount of \$600.00 be paid to the Sedgwick County Medical Society in defraying the various expenses.

Meeting adjourned.

J. F. HASSIG, M.D., Sec'y.

CANCER SURVEY OF KANSAS

(Continued from Page 308)

him to understand the origin, course, and prognosis of the case in hand. This information must include the results of the physical examination of the patient, roentgenologic study, and of histological study, which reveal the structure of the tumor, the origin of the tumor, its grade of malignancy, and the grade of radiosensitivity. Without all these data, the diagnosis must be regarded as incomplete.

The physical examination of the patient covers by far the largest field in the diagnosis of cancer. Experienced and alert physicians in general or special practice, thus discover the majority of malignant tumors immediately and with considerable certainty, and thereby render to the public perhaps the most important service of practical medicine. On the other hand, careless, incomplete and perfunctory examinations of the patient is daily leading to the complete oversight of precancerous lesions and established cancer to the adoption of unwarranted and unjustified, generally less serious, diagnoses, to the hasty resort to biopsies and exploratory operations, to expensive and unnecessary radiological studies, to unfortunate delays and disappointments, all resulting in increased and unnecessary morbidity and mortality.

Doctor S. C. Harvey*, Professor of Surgery, Yale University Medical School, has said:

The necessity for an intensified attack on the problems arising from cancer in man becomes daily more apparent. With more accurate vital statistics, with the more refined methods of diagnosis, and with the drop in mortality rate as a result of the control of the diseases incidental to infancy and early adult life, the morbidity and mortality from cancer, which strikes at the time of life when a person's experience has matured but when his work is only half done, are becoming appalling. The economic loss is secondary only to the suffering entailed in the individual and in those about him.

In former years, when the importance of this problem was less apparent, the individual person with the disease was carried in the general load of medical and surgical work with the result that the attack was desultory and ineffectual, and the general opinion was extremely pessimistic as to the outcome in the individual case. However, in the last decade everywhere throughout the civilized world, the investigation of cancer has been broadened and intensified, and the plan of attack upon its occurrence in man has gradually developed. The antituberculosis crusade of the previous generation has in many ways served as a model and an inspiration, for, although the problems differ in some respects, they are common in that the attack must be concerted and organized and centered about early diagnosis, the provision of adequate facilities, and the development of specialized professional care.

Education of the Public: The public must be taught the hopefulness of early treatment of cancer so that it will seek treatment during the early stages. The profession must also be educated to recognize early signs and symptoms of the disease and to appreciate the possibility of a

*The Yale Journal of Biology and Medicine, p. 533, July, 1931.

cure when the disease is seen in its early stages.

Two periods of delay in securing treatment must be overcome before headway can be made in controlling this disease. The first period is that between the time the patient notices something wrong and a physician is consulted. A survey made in Massachusetts in 1925 showed that the average cancer patient consulted his physician eight months after knowledge of the first symptoms of the disease and that cancer patients who had surgical treatment and ultimately died, had waited more than 10 months after the first symptoms before having an operation.

A survey of the records of admission to the Barnard Free Skin and Cancer Hospital, St. Louis, Missouri, in 1930, showed that patients with cancer of the lip waited approximately one year before applying for treatment; breast cancer patients waited approximately 10 months; those with cancer of the cervix nearly six months; while those with cancer of the skin, the most easily recognized of all, waited from 20 to 24 months before seeking medical attention. No further evidence is necessary to emphasize the need for additional constructive educational work with the public regarding the necessity for early diagnosis and treatment.

The other period of delay is that of the physician in rendering competent service when the patient first presents himself. By this is meant the "watchful waiting" of some physicians to see what further symptoms will develop that will aid in the positive diagnosis of the condition. Too often this delay spells the difference between cure and lingering death from metastases in inaccessible regions.

Two outstanding fallacies regarding cancer are held tenaciously by many people. The first of these, that cancer from the beginning is an incurable disease, is also shared by too many older physicians. The second is that the presence of cancer signifies a social disgrace, and for this reason many patients will conceal the disease from their family and closest friends until so far advanced that pain and other symptoms compel its disclosure.

Another group whose importance is greatly overemphasized by some, is com-

posed of persons whose every abnormality is construed as cancer, a "cancerphobia" so-called. Thinking something is wrong, they consult a physician and, on being told that no evidence of disease can be found, seek confirmation of their fears elsewhere. Such neurotic individuals will continue to worry, but in the absence of the disease, will never die from the *belief* that they have it. If they do not worry about cancer, they will worry about something else. Investigations have shown less than three per cent of those applying to certain cancer hospitals have an imaginary malignancy. Surely the other 97 per cent or more should not be dismissed as cancer-phobes when their intelligence has directed them for information to institutions adequately equipped and staffed for diagnosis and treatment of the disease.

Physicians should be more concerned about the cancerphobia that keeps patients away from them than about the morbidly introspective individual who is always suffering from imaginary illness. Those who know something is wrong, and delay seeking medical attention for fear they may be told they have cancer are a serious problem and constitute a large group of the hopeless cases seen by the medical profession. The public should be taught to focus its attention on the *beginning* of cancer rather than its *ending*.

The public and medical profession should become familiar with the signs and symptoms, the "danger signals", of early cancer. These are: a lump that persists in any part of the body, particularly in a woman's breast; a sore, especially about the face or buccal cavity, that does not heal within the normal healing period; an unnatural blood stained discharge from a natural body orifice, particularly vagina, bladder, or rectum; change in size or color of warts or moles; and persistent indigestion with loss of weight. If the public sought medical advice when one or more of these symptoms appeared, and if the medical profession always had cancer in mind when examining such a patient, a large number of cases would be discovered in early stages when there is most hope for a cure.

Twenty years ago the majority of cancer cases were seen in late stages. More recently the value of early treatment was

established. Today prevention of cancer is being discussed as the significance of certain abnormalities become known. Among conditions definitely recognized as precancerous are unrepaired cervical lacerations due to childbirth; leukoplakia on vaginal or buccal mucous membrane; dirty, jagged teeth that constantly irritate the cheek or tongue, especially when associated with use of tobacco and history of syphilis; dry scaly keratoses on the face and scalp that become moist; warts and moles subject to irritation by clothing or other causes. Such conditions when present should have careful and serious attention by the examining physician. As a rule they respond readily to appropriate treatment.

The psychology of the cancer patient is an important factor in his treatment. No other disease carries the load of depression and discouragement that cancer does. The feeling of hopelessness is difficult to overcome in many cases. Often this depression is due to the patient's ignorance of his true condition. He is not told the nature of his ailment and as time goes on with slow improvement or aggravation of the disease, his morale suffers. The policy of telling patients they have cancer is spreading. Reports from hospitals and clinics where frankness prevails between physician and patient are that such frankness is appreciated and the patient is more cooperative.

The public is becoming so familiar with the symptoms of cancer that many people discuss them intelligently. In certain communities rather positive public opinions are held regarding the value of different therapeutic measures. These opinions doubtless are developed largely from the attitude of local physicians toward the problem. An attitude of honest frankness on the part of physicians would do much to eradicate fear of the disease and erroneous conceptions from the minds of patients and the public.

Cancer a Public Health Problem: Cancer is claiming increased attention as a public health problem. Eleven states, Colorado, Delaware, Florida, Kansas, Louisiana, Mississippi, Montana, Nevada, Oregon, Washington, and Wisconsin now have laws, or departmental regulations

having the effect of law, making it a reportable disease. Adequacy of reporting varies considerably in these states. In some, including Kansas, the law is practically a dead letter. With cancer mortality rising throughout the country, it would seem desirable that health officials take notice of its occurrence and provide means for its study, and, as far as possible, its prevention and control.

Some states have passed legislation on the subject of cancer control and others will probably do so in the near future. In this connection certain provisions in the Massachusetts law placing the cancer program under the State Department of Health may be of interest. Section 2 of chapter 391 of the Acts of 1926 of Massachusetts provides:

The department shall establish and organize cancer clinics in such parts of the commonwealth as it may be most advantageous to the public health and shall conduct such clinics with or without cooperation on part of the municipalities, local physicians, or other agencies.

Article XVIII, section 346 of the public health law of New York, providing for the functions and activities of the State Institute for the Study of Malignant Diseases, states that:

The institute shall conduct investigations of the cause, mortality rate, treatment, prevention and cure of cancer and allied diseases. There may be received free of charge in its hospital for study, experimental or other treatment, cases of cancer and allied diseases. The commissioner of health shall publish from time to time the result of its investigations for the benefit of humanity and he shall, from time to time collate its publications in a scientific report for distribution to scientific bodies and to medical scientists and qualified members of the medical profession.

Section 349 of this same article provides for the Division of Cancer Control as follows:

There is created in the state department of health a division of cancer control, of which the state institute for the study of malignant diseases shall be a part. The commissioner of health through the division of cancer control shall continue to conduct investigations of the cause, mortality rate, treatment, prevention and care of cancer, and allied diseases, including the nature and extent of the facilities available in the several counties and cities of the state, for the diagnosis and treatment of these diseases, and shall cooperate with local health authorities, physicians, hospitals, clinics and voluntary associations, in the development of suitable facilities for the diagnosis, treatment, and control of cancer.

The Division of Cancer Control of the Detroit Department of Health has been engaged in the follow-up of cancer pa-

tients treated in the hospitals of that city. Recently this work has been made a joint responsibility of the health department and the local medical society.

Official health agencies usually have available facilities for obtaining much factual information regarding cancer. Analysis of mortality records, and of morbidity records when available, will give information of value in developing an effective control program. By requiring more accurate death certificates reinforced by autopsies, more accurate diagnoses will result. Study of economic aspects of the disease will bring necessity for effective control forcibly to public attention. Such studies would be of great assistance to physicians of the state, would do much to improve hospital and private medical practice, and would supply an abundance of material for public education in prevention and control of this disease.

Cancer Morbidity Statistics: Cancer morbidity statistics in general are wanting and the only information available on the cancer problem is that given by mortality records. Morbidity figures are needed to check death certificates, to stimulate earlier diagnosis, to raise the standard of treatment, and to augment our clinical knowledge of the disease.

For some reason the collection of morbidity statistics has been ignored by the agencies most concerned in this work. A few hospitals are specializing in cancer treatment and it is from these that available statistics are being received. As one of the essentials of acceptable tumor clinics, such as are now being organized in general hospitals, is the keeping of accurate and adequate records, it is expected that soon a considerable body of information from this source will be available on cancer morbidity. However, it will be necessary to increase the sources of this information much beyond their present number and scope before their value will in any way approach that of other diseases.

In the absence of definitely known etiological factors, the most promising attack on cancer is through the collection and analysis of all possible information bearing on it. Hospitals and physicians

in private practice should take full advantage of their opportunities to record in detail the factors, both primary and collateral that relate to their cancer patients.

(Continued in September issue)

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THE PHYSICIAN'S LIBRARY

SILVER, The Story of a Wild Horse: by Thomas C. Hinkle, M.D., Author of *Tawny, Black Storm, Shag, Bing*, and other stories. William Morrow and Co., New York. Price \$2.00.

"Silver" is the story of a wild horse. His mother is "Old Dun." When Silver was but a few days old, Charley Barr, top rider of the Circle A outfit, saw him and decided some day the wild colt would be his property. How both the colt and mother were captured; how both escape; the mother killed and eventually Silver recaptured, after saving Charlie Barr's life, make a fascinating story that should delight every Hinkle reader.

Physicians especially should take keen delight in reading this splendid fiction from the pen of a member of their profession. Dr. Hinkle is a graduate of the Kansas Medical College, at Topeka, class of 1904. He practices at Carbondale, and is an active member of the Shawnee County and Kansas Medical societies.—E.G.B.

THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS: By John Albert Key, B.S., M.D., and H. Earl Conwell, M.D., F.A.C.S. The C. V. Mosby Co., St. Louis. Price \$15.00.

This is an excellent inventory of the modern practice in the treatment of these conditions. The authors have emphasized the use of plaster of paris as an adjunct in the treatment of fractures. Perhaps they have not carried through the emphasis enough in the major portion of the book as they have in the beginning. The material has been very carefully chosen. All obsolete methods have not been included. Probably a great deal has been left out but certainly it forms an excellent basis upon which to build a working knowledge of this field of therapy.

The authors have made a very careful survey of the modern literature to which they have contributed a great deal themselves. The usual text-book style is followed but the text is very clear, very easy to follow and to understand. Inasmuch as

both authors are orthopedic surgeons, they have incorporated in the book a great deal of material which is usually not found in a text of this kind.

The chapter on "Fractures of the Spine" is of practical value and includes all of the recent work which has been done in this field up to the time of the writing of the book. The illustrations are very clear and numerous. A great number of them have already been seen in the various journals throughout the country. Of particular interest is the section on "The Treatment of Fractures of the Femur in Children." An excellent review is given on "Fractures of the Neck of the Femur."

Although, as these authors state, the book represents the personal experiences of the authors yet the literature has been so thoroughly consulted and the opinions of others incorporated in the work that the book may well represent the trend of thought in the modern treatment of these conditions in this country.—M.E.P.

THE DANGEROUS AGE IN MAN: by Chester Tilton Stone, M.D., The Macmillan Company, New York. Ninety-seven pages with one illustration. Price \$1.75.

The author states in the foreword that despite the modern trend away from secretiveness and ignorance there still are many facts pertaining to man's physical and mental well-being that have been neglected. The prostate gland remains an unexplored country to the average layman, and it is this gland which causes man's mental and physical suffering during his dangerous period. The author believes this stage in life may be comfortably passed by those who avail themselves of the information contained in this volume—seeking, of course, medical aid when necessary.—E.G.B.

CORRECTIVE PHYSICAL EDUCATION: by Josephine Langworthy Rathbone, M.A., Instructor in Physical Education, Teachers College, Columbia University, New York City. 292 pages with 153 illustrations. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$2.50 net.

Miss Rathbone's new textbook is splendidly fitted to meet the needs of students of physical education. The first two chapters are devoted to a review of the basic facts of anatomy and physiology. Frequent references are made to authorities

in medical science. The answer as to what may be done for the handicapped child is supplied in this text.—E.G.B.

THAT HEART OF YOURS: by S. Calvin Smith, M.D., Author of "Heart Affections: Their Recognition and Treatment"; "Heart Records; Their Interpretation and Preparation", and "How Is Your Heart?" Three illustrations in color and three in black and white; 200 pages. J. B. Lippincott Company, Philadelphia, London and Montreal. Price \$2.00.

An invaluable book for those who have—or think they have—heart trouble. Without a word of alarm the author tells the story of the heart in illness and in health, in distress and in comfort, at work and at rest, as any physician relates the story personally to a patient, provided he is given the opportunity. The purpose of the book, as the author states in his foreword, is to supplement and amplify the information which physicians give to a heart patient when time permits and when the patient is in a receptive mood.—E.G.B.

—R—

PERSONALS—NEWS ITEMS

Anthony: Dr. H. W. Brownfield has resumed his practice following an illness of several months duration.

Benedict: Dr. B. R. Riley underwent a major operation in Bell Memorial Hospital in July.

El Dorado: Dr. C. E. Boudreau sailed from New York on July 10. He will take postgraduate work at the University of Vienna.

Emporia: Dr. Philip Morgan and Miss Alfreda Neal of Melvern were married at Westminster Congregational Church in Kansas City, Missouri, on July 7, 1934.

Emporia: Dr. C. W. Lawrence and Mrs. W. O. Thompson, of Dodge City, were married at Dodge City, July 2, 1934.

Fredonia: Dr. and Mrs. H. E. Morgan were in Detroit in June, where the doctor took some special work.

Fredonia: Dr. and Mrs. E. C. Duncan left on July 29, for a two weeks' fishing trip in the Gunnison country in Colorado.

Iola: Dr. H. L. Hendricks has been appointed health officer for Allen County, vice Dr. A. R. Chambers.

Junction City: Dr. H. R. Ross, formerly full-time county health officer of Geary County, has been named as Director of the Division of Child Hygiene of the state board of health. He assumed his duties on July 15.

Junction City: Dr. W. J. Kennedy, of Philadelphia, visited friends and relatives in Emporia, Topeka and Junction City during the week of July 22.

Kansas City: Dr. C. E. Coburn has returned from a vacation trip to Minnesota.

Lansing: W. H. Mitchell, graduate of Columbia University, has been appointed as psychiatrist-psychologist at the state penitentiary. He has previously worked in the Manhattan State Hospital for the Insane in New York, and the Massachusetts and New Hampshire state prisons. Mr. Mitchell is a native Kansan, his home being in Council Grove.

Larned: Dr. C. H. Ewing returned on July 21, after a short vacation trip to Colorado.

Salina: Dr. George E. Stafford and Miss Mary Greenwald were married at Falls City, Nebraska, July 5, 1934. Dr. Stafford has located here and will limit his practice to pediatrics.

Topeka: Dr. and Mrs. W. M. Mills returned on August 5, after a month's trip to the Pacific Northwest and Alaska.

Topeka: Dr. and Mrs. A. E. Hiebert returned July 14 from a two weeks' trip to Minnesota. Dr. Hiebert spent one week at the Mayo Clinic.

Topeka: Dr. and Mrs. C. E. Joss and children, Charles and Dorothy, left July 29 for a three weeks' trip to Nova Scotia.

Topeka: Dr. F. L. Abbey has been appointed as assistant physician at the Topeka State Hospital, vice Dr. B. C. Smith, resigned.

Topeka: Dr. and Mrs. Milton B. Miller and children returned July 29 from a month's trip to Staatsburg-on-the-Hudson, New York.

COUNTY SOCIETY NEWS

RUSH-NESS COUNTY SOCIETY

The medical physicians, the dentists and the registered pharmacists of Rush and Ness County who are eligible or who belong to their county, state or national society or organization met at LaCrosse, Kansas, June 20, 1934, to form a unit of the Public Health Council of Kansas.

This meeting was a joint meeting between the Rush-Ness Medical Society and the Rush-Ness Dental Society, and included the druggists of the two counties and was called for the purpose of organizing and securing membership in the Public Health Council.

The following men were elected as officers: Mr. Leslie Hunt, druggist, McCracken, president; Dr. Wm. Spomer, dentist, McCracken, vice president and president-elect; Mr. Ed Jackson, druggist, Ness City, treasurer, and W. J. Singleton, M.D., LaCrosse, secretary.

The meeting was held in the Masonic Hall. There were 24 druggists, dentists and doctors from the two counties and two visiting doctors from Hays, Dr. Blake and Dr. Betthausen.

The following were elected to membership: Dr. L. A. Latimer, Alexander; Dr. N. W. Robinson and Mr. Vin Houdyshell, Bison; Doctors L. C. Eberhardt, J. E. Attwood, J. K. Attwood, W. J. Singleton, and Mr. Chas. and Will Pokorney, Mr. Ernest Franklin and H. W. Harper, La Crosse; Doctors W. A. Spomer, R. H. Cheney, and Mr. Leslie Hunt and Mr. and Mrs. D. D. Hunt, McCracken; Doctors G. K. Giessmann, T. F. Brennan and F. J. Leiker, and Mr. Ed Jackson and Mr. Neal Ware, Ness City, and Doctors D. B. Parker and G. E. Haynie and Mr. V. J. Marhoffer, Ransom.

This was an excellent meeting and well attended. Dr. L. A. Latimer was the delegate to the state medical meeting and gave an excellent report on the state meeting.

Dr. C. D. Blake who was the newly elected councilor for the northwest counties of the state gave an interesting talk as also did Dr. Betthausen of Hays.

Mr. Charles Pokorney and Mr. H. W.

Harper got up an excellent Dutch lunch which seemed to be very much enjoyed by all. This lunch was sponsored by the druggists, dentists and doctors of La Crosse.

The eligible doctors, dentists and druggists of Rush-Ness County seem to be 100 per cent behind this new organization and are vitally interested in uniting for a mutual cause.

The next meeting will be held sometime in September at McCracken.

W. J. SINGLETON, M.D., Secretary.

—R—

DEATH NOTICES

BAUGHMAN, GEORGE L., Kansas City, aged 60, died June 4, 1934, of diabetic gangrene with cellulitis. He graduated from Kansas Medical College in 1897. He was not a member of the Society.

CARTER, FRANKLIN F., Seneca, aged 60, died June 8, 1934, of chronic nephritis. He graduated from Ensworth Medical College, St. Joseph, in 1900. He was not a member of the Society.

HINDMAN, JOSEPH H., Humboldt, aged 61, died May 27, 1934, of spinal sclerosis. He graduated from Kansas Medical College, Topeka, in 1895. He was not a member of the Society.

MCGAUHEY, ARCHIBALD, Robinson, aged 63, died June 13, 1934, of cancer of the throat. He graduated from University of Louisville School of Medicine in 1893. He was not a member of the Society.

BIRTHS

Kansas City: Dr. and Mrs. Mayro O. Hedge, June 30, 1934; a son, Ramon Hunter.

Kansas City: Dr. and Mrs. Thomas J. Sims, June 5, 1934; a daughter, Constance Carey.

Kansas City: Dr. and Mrs. Allen Smith, June 5, 1934; a daughter, Eleanor Joan.

—R—

KANSAS MEDICAL AUXILIARY

MRS. L. B. GLOYNE, Kansas City
Chairman of Publicity

Crawford County Auxiliary closed activities until fall with a picnic June 15 for members and their families in Lincoln Park, Pittsburg. Next meeting will be held in October, Mrs. H. L. Stelle, President.

Wilson County Auxiliary held a family picnic at the Country Club, Fredonia, June 11. Next meeting will be held in October.

The members of the Labette County Auxiliary entertained in May for their husbands with a hamburger fry at the country home of Dr. Ruble. The Parsons ladies acted as hostesses to the rest of the county. This is the first time an affair like this has been given in the history of Parsons. The next meeting will be held in September.



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TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of April 30 the following have been accepted:

Bilhuber-Knoll Corporation—Dilaudid. Ampules Solution Dilaudid, 2 mg. (1/32 grain), 1.1 cc.; Hypodermic Tablets Dilaudid, 2 mg. (1/32 grain); Hypodermic Tablets Dilaudid, 3.2 mg. (1/20 grain); Hypodermic Tablets Dilaudid, 4 mg. (1/16 grain); Tablets Dilaudid, 2.5 mg. (1/24 grain).

H. E. Dubin Laboratories, Inc.—Aminophyllin-Dubin. Ampules Solution Aminophyllin-Dubin, 0.24 Gm., 10 cc.; Ampules Solution Aminophyllin-Dubin, 0.48 Gm., 2 cc.; Suppositories Aminophyllin-Dubin, 0.36 Gm.; Tablets Aminophyllin-Dubin, 0.1 Gm.

Gilliland Laboratories, Inc.—Diphtheria Toxoid, Alum Precipitated (Refined).

Schering & Glatz, Inc.—Medinal. Medinal Tablets, 5 grs.; Medinal Suppositories, 10 grs.

Frederick Stearns & Co.—Neo-Synephrin Hydrochloride. Solution Neo-Synephrin Hydrochloride, 0.25 per cent; Solution Neo-Synephrin Hydrochloride, 1 per cent.

Winthrop Chemical Co., Inc.—Chiniofon-Winthrop—Tablets Chiniofon-Winthrop, 0.25 Gm. (4 grains).

The following product has been accepted for inclusion in the List of Articles and Brands Accepted by the Council but Not Described in N.N.R. (New and Nonofficial Remedies, 1934, p. 443):

Cheplin Biological Laboratories, Inc.—Cheplin's Epinephrine Hydrochloride Solution 1:1000. Ampules 1 cc.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Pollen Extracts-Mulford—The following pollen extracts-Mulford (New and Nonofficial Remedies, 1934, p. 38), marketed in 5 cc. vials containing 2,000 pollen units per cubic centimeter, have been accepted: Live

Oak Pollen Extract-Mulford; Red Clover Pollen Extract-Mulford; Sweet Clover Pollen Extract-Mulford; Southern Ragweed Pollen Extract-Mulford. Sharp & Dohme, Inc., Philadelphia.

Ampules Bismuth Subsalicylate 2 grains (0.13 Gm.) in Oil, 1 cc.—a Suspension of bismuth subsalicylate-U.S.P. (New and Nonofficial Remedies, 1934, p. 116), 0.13 Gm., camphor 0.1 Gm., and creosote 0.1 Gm. in sufficient olive oil to make 1 cc. Cheplin Biological Laboratories, Inc., Syracuse, N. Y. (Jour. A.M.A., May 12, 1934, p. 1564).

Refined Diphtheria Toxoid (Alum Precipitated)-Lederle—Diphtheria toxoid refined by precipitation with a 4 per cent solution of potassium aluminum sulphate, washed with sterile physiological solution of sodium chloride and resuspended in the same menstruum (New and Nonofficial Remedies, 1934, p. 393). It is preserved with Merthiolate 1:10,000. The product is marketed in packages of one 1 cc. vial (one immunization), ten 1 cc. vials (ten immunizations), and one 10 cc. vial (ten immunizations). Lederle Laboratories, Inc., Pearl River, N. Y.

Ampules Solution Mercury Succinimide 1/8 grain (0.01 Gm.) 1 cc.—Mercuric succinimide-N.N.R. (New and Nonofficial Remedies, 1934, p. 293), 0.01 Gm., benzyl alcohol 0.01 cc., and glycerin 0.013 Gm., in sufficient distilled water to make 1 cc. Cheplin Biological Laboratories, Inc., Syracuse, N. Y.

Soluble Stomach Extract-Fairchild—A concentrated extract of material derived from mammalian stomach mucosa. It is marketed in vials containing approximately 3 Gm. of substance representing material derived from 100 Gm. of fresh stomach mucosa. It is proposed for oral administration in the treatment of pernicious anemia. Fairchild Bros. & Foster, New York.

Ucoline Calcium Phosphate Cocoa Wafers—Each wafer contains tribasic calcium phosphate (New and Nonofficial Remedies, 1934, p. 134), 0.585 Gm. (9 grains), cocoa 0.65 Gm. (10 grains), powdered sugar 0.13 Gm. (5 grains), starch 0.021 Gm. (1/2 grain) and saccharin 4.8 mg. (3/40 grain), flavored with coumarin, vanillin, oil of peppermint, and salt. Ucoline Products Company, Chicago. (Jour. A.M.A., May 19, 1934, p. 1680).

Accepted Devices For Physical Therapy

The following products have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices:

Founded 1896 by Dr. Hubert Work



WOODCROFT HOSPITAL, PUEBLO, COLO.

A modern, newly constructed sanitarium for the scientific care and treatment of those nervously and mentally ill, the senile and drug addicts.

CRUM EPLER, M.D.
Superintendent

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No. 9

ORIGINAL ARTICLES

SOME RECENT DEVELOPMENTS IN PHYSICAL DIAGNOSIS*

OSCAR W. BETHEA, M.D.†

New Orleans, La.

As a result of years of effort in trying to secure the greatest amount of information from physical examinations, I have found some procedures of sufficient value to be worth presenting for your consideration. Most of these have been previously published. In using new illustrations and more detailed descriptions my aim is to stimulate greater interest, further study and a more general use of a better procedure.

In preparing for a physical examination of the chest the first consideration is that of obtaining a favorable environment.

Quiet is essential. In the home or hospital unnecessary persons should be excluded and those remaining instructed as to the avoidance of movement or noise. Even a loudly ticking clock may be removed from the room. Outside noises can be lessened by temporarily closing the windows and doors. In my private office I have had for many years an inside sound-proof examining room that has proven invaluable for good work.

The temperature of the examining room should be comfortable. If too cold, complete relaxation may not be secured and there are apt to be muscle tremors and the development of "goose flesh" resulting in much confusing "static." If too warm the patient may be uncomfortable, breathe abnormally and perspiration interfere

materially with satisfactory auscultation, especially if a diaphragm type of stethoscope is used. I am so fortunate as to have an office adequately warmed in winter and "air conditioned" in summer. The latter convenience further enables me to shut out other sounds from the entire suite. Men should be stripped to the waist; women may have their feelings respected by exposing only part of the chest at a time, but should be so prepared that this can be accomplished readily, especially so that corresponding areas on the two sides can be exposed at the same time. Women of today seldom cause difficulty in such matters.

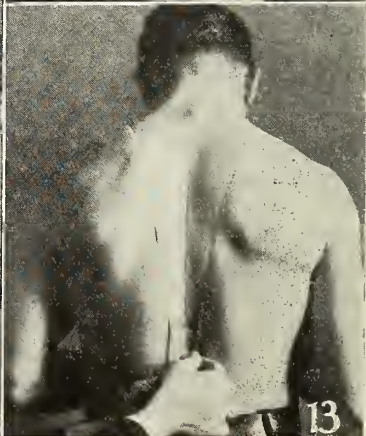
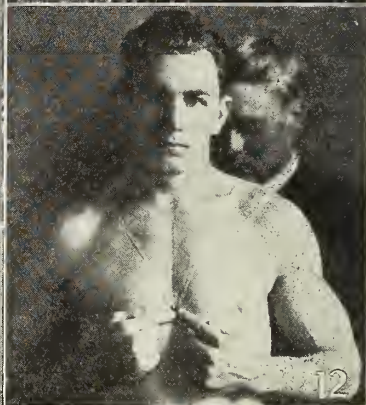
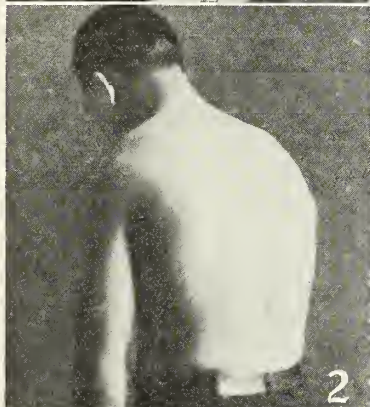
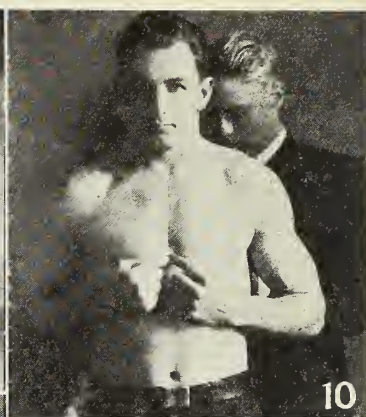
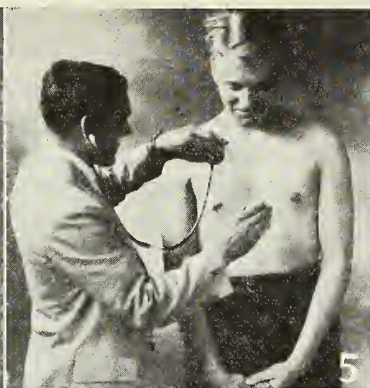
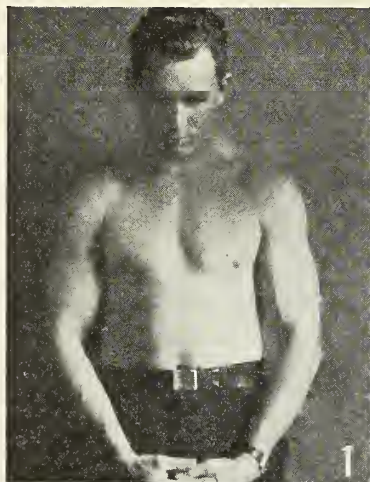
When there is hair on the area to be particularly studied as the region of the pulmonary apices, this area should be carefully shaved. I have found it of marked advantage to sprinkle the skin with talcum and to lightly go over this with a cotton sponge.

The position of the patient must depend upon his ability to cooperate. In the bed case the front of the chest may be examined with the patient in dorsal decubitus. A shift of position may be necessary only for certain special investigations relating to the heart. For examining the back of the thorax the patient should sit up if possible and maintain a comfortably relaxed position by circling his flexed knees with his arms. Many patients, especially children, may comfortably lie in ventral decubitus. When the patient is in such a condition that he can only be turned on his side, final conclusions should not be drawn until the examination has been made with the patient lying first on one side and then on the other. Most of us have been led into error by neglecting this precaution.

In office work I prefer to have the patient standing. For examining the front of the chest I have him placed with his back resting comfortably against a door

*Address before the 76th Annual Meeting of the Kansas Medical Society at Wichita, Kansas, May 9, 10 and 11, 1934.

†Professor of Clinical Medicine, Tulane University.



(Fig. 1), the fingers locked, the arms relaxed, the shoulders drooped and the gaze directed downward at an angle of about 45° and fixed on a definite object. The results are: The patient is comfortable; relaxation is complete; the hands are occupied, thus preventing scratching, rubbing or other disturbing movements; the head is fixed in position; and the breath is directed downward. In examining the back of the thorax I have the patient stand out from the wall, the hands and position generally the same as just described except that the body is inclined further forward by directing him to look between his feet. (Fig. 2). I have measured the interscapular spaces exposed in the various positions commonly used for such work, by marking the vertebral borders of the scapulae and have found that this position meets the requirements as well as any other if not better (Fig. 3).

Often our most important findings result from a comparison of the two sides of the chest. Therefore to obtain the most accurate results from percussion, it is necessary that the examiner stand with his ears equidistant from the corresponding areas studied, that is directly behind or in front of the patient (Fig. 4). If the examiner has only one good ear that ear should occupy this central position.

Fig. 1—Position for examining the front of the chest.

Fig. 2—Position for examining the back of the chest.

Fig. 3—Showing the interscapular space exposed for examination.

Fig. 4—Showing position of examiner for percussion.

Fig. 5—A method for securing cooperation of the patient for auscultation.

Fig. 6—Palpating the apical impulse of the heart.

Fig. 7—Finger tip palpation of the apical impulse of the heart.

Fig. 8—Spread finger palpation of the chest.

Fig. 9—Palpation to determine unilateral impairment of apical expansion.

Fig. 10—Circumferential mensuration to determine unilateral impairment (front).

Fig. 11—Circumferential mensuration to determine unilateral impairment (back).

Fig. 12—Measuring the upper thorax to determine unilateral impairment (front).

Fig. 13—Measuring the upper thorax to determine unilateral impairment (rear).

In percussing the two sides for comparison, if this be done indiscriminately through the respiratory cycles, one side may be struck when the chest is empty of tidal air and the other when it is full, thus giving a misleading difference. Percussion of corresponding areas is best done while the patient holds his breath at the end of exhalation and at the end of inhalation, this to be repeated until the whole chest has been covered.

For each auscultatory combination—patient, examiner, stethoscope, environment, there is a rate and depth of respiratory movement that will give the best result. Sometimes we have this without interference. More often we do not. We may either do our best with what the patient offers or try to secure ideal cooperation. I wish to recommend the following scheme as having met the requirements well.

The above facts are briefly explained to the patient. The chest piece of the stethoscope is then placed over an apex; the examiner's free hand is held in front of the patient and he is instructed to watch it, inhaling as the hand is raised; exhaling as it is lowered, and pausing when it pauses. In this way the breathing is directed until that rate, depth, and smoothness is obtained which best meets the requirements of that particular case (Fig. 5). The patient is then told to continue to breathe in that way and the directing hand is withdrawn.

It is sometimes difficult to locate the apex impulse of the heart, yet its determination is always important. I have often been aided by palpating the intercostal spaces with the ulnar side and little finger of the right hand. (Fig. 6). The hand is placed with the palm up as it may then be curved better to fit the curving intercostal spaces. The greater sensitiveness of the area supplied by the ulnar nerve to certain impressions has been demonstrated, and this procedure may be of some additional value in right-handed individuals.

Another plan is to place the sensitive tips of the slightly separated fingers in the intercostal spaces (Fig. 7). Either of these procedures may be reinforced by taking advantage of forced respiratory movements. We have learned in using the

cardio-respiratory test of Frost that toward the end or just after a forceful respiratory effort the systolic pressure rises, and therefore the heart beats with more force. At the end of an exhalation we also have the further advantage of pulmonary retraction better exposing the heart.

For palpating the thorax to locate impaired fremitus the custom has been to apply the palmar surface of the whole hand or of the fingers, or of the back of the fingers or the ulnar side of the hand. What I wish to suggest is that in doing this we apply only the palmar surfaces of the slightly separated but nearly paralleled fingers (Fig. 8). The palm of the hand should not touch the skin as in this way there is less tendency for vibration to be transmitted from one finger to another by direct contact. Beginning well up in the area of normal vibration, the hand is lowered a finger's breadth at a time until we are conscious of the fact that there is less vibration under the lower finger than under the two lower fingers and finally only the upper finger is in the area of unmodified vibration. A blue pencil mark is then made between the two upper fingers. The hand is so placed that the little finger is uppermost as it is supplied by the ulnar nerve.

In palpation to determine unilateral impairment of apical expansion the custom has been to stand back of the patient, saddle the hands across the shoulders with the fingers covering the upper front of corresponding sides of the chest; or to stand in front of the patient and place the palmar surfaces of the hands and fingers over the front upper part of the chest as the patient breathes in and out. My suggestion is that we stand or sit directly back of the patient, placing the finger tips high up in the axillary region on each side so that they will rest in corresponding intercostal spaces and on the tops of corresponding ribs. The hands are anchored in position by the palms and thumbs grasping the scapula groups of muscles (Fig. 9). As the patient breathes in and out the examining hands remain in position on the skin while the ribs in rotating and lifting glide under the finger tips. The usual movement is a little more than one

rib-width. I believe that in this way we can more accurately determine any unilateral impairment of movement. This finding is further accentuated by the fact that when one side is impaired the other side tends to take on a compensatory hyperactivity.

The matter of mensuration of the chest has largely fallen into disuse due to the paucity and inaccuracy of the information obtained. The custom has been to determine merely the normal circumference of the chest and the degree of total movement by passing a tape around and taking the readings at rest, at the end of forced inhalation and at the end of forced exhalation. This gives no clue as to the most important data, that of the comparative size and comparative movement of the two sides. I arranged a special device consisting of an overcoat button, a carpet tack and two pieces of common tape, reading out in each direction from the common center. With this crude equipment I measured the chests of 150 patients who had tuberculosis, acute pleurisy, pleurisy with serous effusion; localized and general empyema, pulmonary abscesses, and carcinoma. These patients were all studied by means of x-ray, physical examination, etc., and the information obtained by this mensuration proved reliable and valuable. This chest tape is now on the market consisting of a central metal button to which are hinged two pieces of tape, graduated both in inches and centimeters. The patient is first prepared by making blue pencil marks down the midline, in the front and back of the chest. The central piece is held on the line in front by an assistant or by the patient. When it is held by the patient, the index fingers of both hands are used so as to make the distribution of the chest muscles equal on both sides (Fig. 10). The reading is taken where the two tapes cross the median line in the back (Fig. 11). This is done at rest, at the end of a forced inhalation and at the end of a forced exhalation. As these readings are taken at the same time, during the same stages of the same respiratory cycles, the findings are naturally accurate.

We became interested in the results of taking these measurements across the

shoulders and the two pieces of tape are hinged on the common center so that this can be readily done (Fig. 12). In preparing a patient for this a transverse line is made across the lower thorax in the back and the readings are taken where the tapes cross this line (Fig. 13), at rest, at the end of inhalation and at the end of exhalation. I have not sufficient data on this to justify any definite conclusions but so far the findings have been interesting.

As might be expected in the circumferential measurements, some data was definite. For example: in pleurisy with either serous or purulent effusion, the diseased side was larger and moved less on respiration; in fibroid phthisis the diseased side was smaller and moved less on respiration. In the shoulder measurements present findings indicate that at least supplementary information of value may be obtained in apical involvement. We should remember that one of the first reactions to disease is muscular fixation of the area. We recognize this as an important finding in such diseases as appendicitis and cholecystitis. We sometimes overlook the fact that the same condition obtains in diseases of the thorax and that here also there will be naturally a limitation of the respiratory movement on the side involved. It is probable, therefore,

that mensuration has a larger field of usefulness than is sometimes imagined.

In pulmonary conditions requiring surgical approach such as pleurisy with effusion, the custom has been to make a physical examination, have a film made and when the findings indicate that aspiration or other operative procedure is necessary, to pick out the site for puncture or incision by a study of the film and re-examination of the chest. I tried the plan of making a physical examination and, when it seemed that operative interference might be necessary, to pick out what seemed to be the most desirable site, fix a small coin to this area with adhesive plaster and then send the patient for *x-ray* study. When the film was studied later we could determine with considerable accuracy if the proposed site was the best, if not we could measure the correct distance and direction on the film then make the same measurements from the marker which had been left on the chest of the patient. The results were highly satisfactory. We found, however, that small coins sometimes did not show up well on the films and particularly did not lend themselves to the making of cuts for publication. This especially obtained where the details were not clear due to the presence of marked pathological changes.

With the assistance of Mr. Charles K. Goodman, radiological technician at the Baptist Hospital in New Orleans, we devised a distinctive marker that could not be mistaken for anything else. (Fig. 14). This is now on the market at a nominal cost. When a patient has already been aspirated, it is our custom to cover each old puncture wound with a marker before having a film made. We have had some cases in which we have been able to determine that previous punctures for aspiration, particularly in trying to move localized accumulations had been quite far away from the material and in several instances we have demonstrated that entrance had been made well below the diaphragm. This plan is not recommended as perfect, but as one of the many aids that at times prove of such value as to justify their uniform employment.

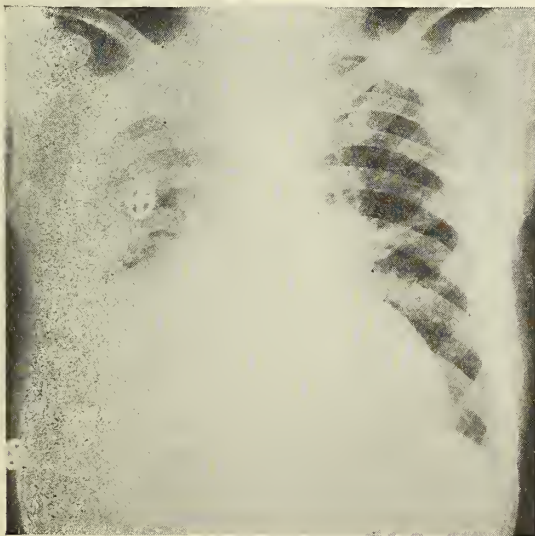


Fig. 14—The use of lead markers to determine the best site for aspiration.

THE INSANITY OF HAMLET*

C. F. MENNINGER, M.D.

Topeka, Kansas

Life in all its forms, physical and mental, morbid and healthy, is a relation; its phenomena result from the reciprocal action of an individual organism and of external forces; health is the consequence and the evidence of a successful adaptation to the conditions of existence and imports the preservation, the well-being and development of the organism, while disease marks a failure in organic adaptation to external conditions and leads to disorder, decay and death. The harmonious relation existing between the organism and its environment which is the condition of health may be disturbed either (1) by a cause in the organism; (2) by a cause in the environment, and (3) by cause or causes in both. We hear it often said that a person's mind is broken down in consequence of adverse conditions of life, social or physical. In all these cases it can very certainly be presupposed there was a weakness in the nerve element either inherited or acquired, which has cooperated. For were the nervous system without flaw or infirmity—in a state of perfect soundness and in possession of that reserve power with which it does adapt itself within certain limits to the ever varying external conditions, it is certainly not likely that unfavorable circumstances would be all sufficient to so disturb the relation as to initiate mental disease. What we desire to emphasize is that external causes alone very rarely produce mental disease, but where there is a concurrence of causes, arising partly within the organism and partly without—an unfavorable action from without conspiring with an infirmity of the system within, establish in the largest percentage of instances that disorder and discord known as insanity. And this applies not alone to insanity but to all diseases to which human flesh is heir. Why do not all persons take consumption? Why do some experience an immunity to infection from any contagious disease? Why are not all persons infected with parasites? It is ex-

plained by the same biological law that gives us the reason why a clay bank will not grow sweet-potatoes and an ashpile raise earth-worms. Great mistakes are very often made, even by men of culture in fixing upon the supposed causes of disease in particular cases. A single prominent event is selected as in itself effective to explain the whole disaster, when that event alone was perhaps merely one in a whole train of causes. A series of external events in concurrence with steadily operating conditions within—but not a single event—an accident, a sorrow, or need or adversity—can alone be regarded as adequate cause for insanity. When we are told that a man has become insane or mentally deranged by sorrow: we have not sounded the cause if we stop there. How is it that another who undergoes an exactly similar adversity or one of even greater degree does not go mad? The entire causes could not possibly have been the same where the effects were so different.

The germs of insanity are often latent in the foundations of the character—may reach back through a lifetime or have its root in the foregoing generation. Man gets much from his parents in addition to the spark of life. His father, his mother, his grandfather, his grandmother, are latent and declare themselves in him: and it is on the lines thus laid in his nature that his development will proceed. It is not by virtue of education so much as by virtue of inheritance that he is brave or timid, generous or selfish, prudent or reckless, boastful or modest, quick or placid in temper. What would you think of a child's nervous makeup and mental equilibrium whose mother upon the sudden death of her husband whom she loved to extremes, would marry in indecent haste her late husband's brother by name but not in quality of person or character? Would it be likely that we would find a well balanced mind in the son of this mother who would urge him to join in her marriage festivities and rejoicings "Ere yet the salt of most unrighteous tears had left the flushing in her galled eyes." What could a son inherit from his mother who would marry within a month her husband's, his brother's, murderer? He may have received a high degree of culture from his school-

*Read before the Saturday Night Club, at Topeka, Kansas, October 18, 1890. It is interesting to note this paper was prepared and given by a physician before the birth of two sons who later entered psychiatry.—Editor.

masters but his inheritance from his mother offsets all training in his mental sphere. Breed has a more vital influence on character and mentality than training or culture. We look to the tree for fruit after its kind and we cannot be persuaded that grapes will ever grow on thorns or figs on thistles.

Facts which establish the reality of insanity beyond a doubt in the opinion of medical witnesses who have spent years in the observation of the insane have been time and again questioned and argued to be mere feigned or simulated symptoms and capable of being explained without resorting to the theory of insanity. The celebrated trial of Abner Rogers in Massachusetts is one in point. In this case the facts proved beyond all doubt that he was insane, yet the prosecuting attorney sinking under the difficulties of a bad case, disposed of the facts by arguing and proving that these symptoms were not real but only feigned. Can simulation of insanity be detected? The common opinion is, among those who are at all qualified to form such an opinion, that sufficient opportunity being given simulated insanity can always be detected by those who have such practical knowledge of the disease. Was Hamlet insane or was he a mere simulator?

"How strange or odd soe'er I bear myself—
As I, perchance, hereafter shall think meet
To put an antic disposition on—"

These three short lines have been productive of much mischief—much argument. It is a clever bait and many a fish that swam classic seas thoughtlessly bit at it and was caught. Dr. Johnson could see in the madness of Hamlet only a provocative of mirth; and even Coleridge profoundly as he discoursed on the various springs and forms of human thought, regarded it as a clever sham, used for the purpose of concealing a real design. Until within a few years, Hamlet's derangement was almost universally regarded as feigned. Aside from his own intimation after meeting the ghost it is difficult to conceive of any foundation for this opinion. And yet it would seem as if the strongest and clearest reasons alone could warrant the idea that the most faithful delineation of a disordered mind ever

made by man represents a deceptive counterfeit, not a truth and a reality. Without a single adequate reason, this notion has been handed down, like an heirloom from one critic to another, unquestioned and apparently unquestionable in the very face of the fact that Hamlet's insanity, which is supposed to be assumed for the purpose of concealing his plans, immediately excites the apprehensions of the king and leads to his own banishment from the state. A most perverse ingenuity has been exercised in endeavoring to reconcile some passages in Hamlet's conduct with the admitted qualities of his character and the ordinary springs of human action. Hamlet's disorder is often manifested under circumstances that forbid the idea of simulation.

Because of an inability to discern the essential distinctions between real and feigned insanity we believe many critics have been loath to abandon the old views of Hamlet's mental status. To extenuate their position they say it was not Shakespeare's endeavor to represent a case of genuine disease when confronted with some passage that could hardly be feigned and assert that it only proves the poet's great power of imitation. Although Shakespeare's intellect was an overmastering power which still recoils from its encumbering clay, critics attribute quite too much to him because there are many traits of the real disease that defy the utmost efforts of mimicry to simulate. The perversion of the moral affections, the sincere and solemn earnestness with which the patient announces and asserts his delusions, that particular train of thoughts, so difficult to describe, but so characteristic of insanity—all these are traits as far beyond the power of the simulator to imitate, as the quick pulse, furred tongue and dry skin of its more recent and acute forms. Then, too, critics overlook the very purpose of feigning. It is to deceive, to hoodwink the spectator into the belief of something that has no real existence. Hence only such traits of the disease are exhibited which would make the strongest and best impression and all those most carefully avoided that are least often noticed and those that would pass in the world for something else, such as eccen-

tricity, bad humor or low spirits. The purposes of the simulator require that the traits he assumes should be obvious immediately and so he forces them on the attention with no regard to pathological propriety or to any principle of subordination. That Shakespeare bore this distinction in mind in the present instance, is obvious in every scene of the play. All can recognize insanity in one who raves or utters gross delusions, but few can see it in Hamlet's scorching rebuke of his mother, in his harsh treatment to Ophelia, in his murder of Polonius, in his famous soliloquy on death, or in his welcoming address to his old schoolfellows. In much of this conduct and discourse most persons would see nothing more than an extreme acerbity of temper, an early experience of the hollowness of life and at worst perhaps, a fit of depression.

The theory of insanity will explain very satisfactorily all difficulties which have received such various solutions. The character and conduct of Hamlet are in the strictest accordance with the principles of human nature. Hamlet was no automaton but a living human soul and as in the case of most distinguished men, his character is not so easily read. The integrity of every train of thought is marred by some intrusion of disease—the smooth deep current of his feelings is turned into eddies and whirlpools under its influence and his solemn undertakings conducted to an abortive issue. His clearest perceptions, his holiest purposes, his strongest determinations, are followed by the doubts, apprehensions and scruples that torment and distract the disordered mind. While his whole soul is occupied with the idea of revenge, he is ever finding excuses for postponing the moment of execution, constantly turning from his purpose by the merest whim and justifying his conduct by reasons too flimsy to satisfy any but a disordered intellect. His very remark "to put an antic disposition on" on which the theory of Hamlet's insanity being feigned is mainly founded, indicates at most but an indefinite half-formed resolve to accomplish a purpose by simulating a disease that was really overshadowing his spirit in all its fearful reality. The final event, the crowning catastrophe of the

piece most aptly finishes the story of Hamlet's irresolution, his vacillation, his forereaching plans, his inadequate performance. The nearest object of his heart—the revenge of his father's wrong—is at last accomplished, but by means of a contrivance he had no part in affecting. Such is the nature of insanity—to talk but not to act, to resolve but never to execute; to support the soundest projects for action by the most imperfect performances.

Hamlet's interview with Ophelia, as described by herself, exhibits in it some of those exquisite touches that always distinguishes the genuine from the false. Here Shakespeare is poetically, dramatically and pathologically true to nature and science. In this interview the indications of derangement are confined to looks, gesture and demeanor. Not a word escapes his lips but a language more expressive than that of the voice betrays the violence of his emotions. We see him in a sudden paroxysm of his disorder that renders him heedless of his personal appearance, obeying the instincts of his affections, and making his accustomed way to her whose love had shed a radiance over his opening prospects. In a tumult of strange and contending emotions he has lost the power of speech, for he had already lost the power to think and feel like himself. He can only gaze into her face as if to penetrate into the mystery that surrounds him and then heaves a convulsive sigh that threatens to end his being. Such is madness and such scenes as this and others that subsequently occurred between Hamlet and Ophelia have happened a thousand times in real life, where the insane lover thrusts himself into the presence of his mistress with pallid face, piteous look, knees knocking each other, hatless head and downgyved stockings, only to frighten and distress her by the painful exhibition of clouded intellect and disordered affections. All this interview may be said to be entirely compatible with the theory of simulation, but when we behold Hamlet and Ophelia in their next interview so remarkable for his outrageous cruelty and harshness of conduct and language we are as little inclined to believe all this to be a well acted sham as we would the wail of a newborn infant or the hectic

flush of a consumptive. Can you see in this pretended madness as Dr. Johnson did, a cause for much mirth? No, you do not laugh nor even smile to see so fair a lady as Ophelia treated in so harsh and unfeeling a way, even for the purpose of simulation. Commentators who hold that Hamlet feigned madness never explain this passage—indeed it cannot be explained by their theories. The most natural theory and the only one that can throw any light on it and which makes it so plain after being once suggested reveals it to all that Hamlet is insane. His conduct in this interview on the theory of insanity is perfectly in accord with the symptoms of this disease. Insanity brings a change over the warmest affections of the heart, whereby the golden chains wrought by love and kindness are utterly dissolved and the forsaken and desolate spirit, though it continues among men, is no longer of them.

THE DARKENED MIND

The fire is burning clear and blithely,
Pleasantly whistles the winter wind;
We are about thee, thy friends and kindred,
On us all flickers the firelight kind;
There thou sittest in thy wonted corner
Lone and awful in thy darkened mind.

There thou sittest; now and then thou moanest;
Thou dost talk with what we cannot see,
Lookest at us with an eye so doubtful,
It doth put us very far from thee;
There thou sittest; we would fain be nigh thee,
But we know that it can never be.

We can touch thee, still we are no nearer;
Gather round thee, still thou are alone;
The wide chasm of reason is between us;
Thou confutest kindness with a moan;
We can speak to thee, and thou canst answer,
Like two prisoners through a wall of stone.
Hardest heart would call it very awful
When thou look'st at us and seest—O what?
If we move away, thou sittest gazing
With those vague eyes at the selfsame spot,
And thou mutterest, thy hands thou wringest,
Seeing something,—us thou seest not.

Strange it is that in this open brightness,
Thou shouldst sit in such a narrow cell;
Strange it is that thou shouldst be so lonesome
Where those are who love thee all so well;
Not so much of thee is left among us
As the hum outliving the hushed bell.

—Lowell.

In no instance are these views so strongly confirmed as in this remarkable scene. Notice the rapid transition so characteristic of the insane. First calmness and courtesy followed by torrents of abuse, denial of affection, extravagance and per-

versity. Then the most tender emotions as she flits before him. And when she returns the gifts she had received from him with a mere intimation that he had ceased to love her, quick as a flash jealousy, the arch-demon of hell with his loyal cohorts, mistrust and anger run riot through the avenues of his brain. Words of gall and bitterness are poured out upon the fair Ophelia whom he loved with more than the love of forty thousand brothers. Feelings of doubt, indifference, hatred, contempt and loathing are thrown like a thousand poisoned arrows into her tender breast; and the tenderness of a lover, the courtesy of a gentleman have been transformed into the bitterest of bitter hatred, perversity and ill treatment. Is there anything laughable in this laceration of feelings and outraging of dignity? Or anything warrantable as a clever sham to hide a real design? How unnatural and unwarrantable it would have been in Hamlet had he been acting a part, is obvious enough from the disposition of critics to regard it as a fault in the author. The fury and extravagance of mania, the moodiness of melancholy he might successfully mimic; but to do violence to his affections, to desecrate and trample upon the idol that he had enshrined in his heart of hearts—this was beyond the power of mimicry.

Shakespeare had closely observed and studied such aberrations from the normal course of the affections and saw in them that kind of poetical interest which master-spirits like his are apt to discern in the highest truths of philosophy. His delineations of insanity unfold many a deep truth in mental pathology. Maudsley says of him: "I am apt to think that we may learn more of the real causation of insanity by the study of a Tragedy like Lear than from all that has yet been written thereupon in the guise of science." Ray says "Few men, I apprehend, are so familiar with those diversities of mental character, that are in any degree, the result of disease, as not to find the sphere of their ideas on this subject somewhat enlarged by the careful study of Shakespeare."

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larly found to be valuable in persuing this subject:

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The Madfolk of Shakespeare, Dr. Kellogg.
Hamlet, Dr. Conolly.
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London Magazine, 1824, Series of articles by William Farren, the first to question the sanity of Hamlet.

R

IN MEMORIAM*

Committee on Necrology†

Each year as we come together in our annual meeting we miss some familiar faces. We miss the cheery greetings; we miss the welcoming smiles and the hearty handclaps of those of our fellow workers who have passed on during the preceding year, and in former years. They were our brothers and we loved them and looked forward to meeting them with the greatest pleasure. In fact with some of us, the main object of our meeting together was the opportunity of seeing our old friends of many years. They have passed the great divide; we believe they have solved the great mystery of life, and to us who are left we have only our fond memories.

Each year we add to the roll of those who have gone, and 1933 has seen the passing of 68 of our friends and co-workers—eight more than last year.

The average age at death was 69 years. Three were over 90 years; seven from 80 to 90 years—the oldest 98, and the youngest who met a tragic death by drowning, only 26 years. The largest number of deaths occurred in May, 1933, there being eight that month, and October was next with seven.

Causes of death: Chronic heart disease, 12; coronary occlusion or angina pectoris, 8; carcinoma, 6; chronic nephritis, 6; pneumonia, 6; cerebral hemorrhage, 5; diabetes, 4; influenza, 2; tuberculosis, 2; senility, 2; arteriosclerosis, 2; suicide, 2; accidental drowning, 1; mesentery artery obstruction, 1; agranulocytosis, 1; acute pancreatitis, 1; pernicious anemia, 1; encephalitis, 1; kidney stone, 1; septicemia, 1; accidental fall, 1; automobile accident, 1, and unknown, 1.

We are greatly indebted to the JOURNAL editor for his good services in sending us these death notices. We would like to suggest that it would be advisable for the secretaries of all local medical societies to forward death notices promptly to the JOURNAL; this would also be of great assistance to this committee. Last year, the JOURNAL office mailed copies of the JOURNAL containing the necrology report to the various secretaries of county societies with the request that they deliver a copy to the immediate family of each deceased physician; this was a thoughtful courtesy.

The following is the complete list of deceased associates for the past year:

- *Anderson, George Malcolm, Lincoln
- Bradley, Charles Chitten, Dover
- *Bennett, Charles Clifford, Bazine
- *Blanke, Theodore F., Garden City
- *Boardman, Edgar W., Parsons
- *Brewer, Joseph Francis, Minneapolis
- Carter, Robert G., Chetopa
- Cartwright, Edward Dennis, McPherson
- Connor, James A., Waverly
- Courtwright, William Thomas, Sedan
- Davis, Alexander Glenn, Logan
- *DeMott, Chester Wilmont, Independence
- Doolittle, Charles Alfred, Atchison
- Finlaw, James Parker, Hutchinson
- Fisher, David Samuel, Reading
- Forney, Chauncey S., Iola
- Fowler, Wilber E., Brookville
- Funk, Charles Corwin, Smith Center
- *Fuson, Frank B., Larned
- Goodrich, Cutler Wilkins, Wichita
- *Graham, J. Dale, Columbus
- *Graybill, J. W., Newton
- *Greene, Frank F., Olathe
- *Hahn, Milton, Arkansas City
- *Hartman, Emil Ernst, Anthony
- Hays, Daniel Webster, Ensign
- †Herr, Francis Christian, Ottawa
- Hewitt, Augustus Eddy, Walnut
- *Hissem, Henry Z., Ellsworth
- Hobbs, P. Albert, Olathe
- Hudson, John Francis, Olathe
- Immel, Albert Allison, Welborn
- *Kendall, Addison, Great Bend.
- *MacGregor, John Alfred, Kansas City
- McBride, Joseph Stevenson, Lyons
- McCreery, Guy Robert, Hugoton
- Menard, Charles E., Paxico
- Mitchell, John Charles, Waldo

*Read before the 76th annual meeting of the Kansas Medical Society at Wichita, Kansas, May 9, 10 and 11, 1934.

†J. T. Axtell, M.D., Newton, Chairman; W. F. Bernstorf, M.D., Pratt, and E. E. Morrison, M.D., Great Bend.

*Member, Kansas Medical Society.

†Emeritus member, Kansas Medical Society.

Myers, Thomas William, Wichita
 Neal, George Lafayette, Garden City
 *Nordstrom, Louis Oliver, Salina
 Norris, Granville Ray, Burlington
 O'Brien, Daniel S., Beloit
 Orelup, Charles Edwin, Lawrence
 Owen, Henry Clay, Olathe
 *Palmer, Edward M., Wichita
 Pettite, George W., Athol
 *Pope, Boyd Henderson, Kingman
 †Powell, Lewis Morgan, Topeka
 Pritchard, William W., Wichita
 *Rhodes, James Joseph, Cummings
 †Righter, William Henry, Topeka
 Robertson, Orrin, Wichita
 *Robinson, Ole E., Independence
 *Roff, Ocran W., Newton
 *Sawhill, William F., Concordia
 *Scarborough, Herbert Virgil, Lyons
 *Scollick, Percy A., Kansas City
 *Scott, Walter Waverly, Kensington
 *Smith, Derostus E., Kansas City
 Somers, Ira Clinton, Chanute
 Steele, Samuel, Chanute
 Terrill, Julian Oscar, Wichita
 Tihen, Herman Bernard, Andale
 Tinney, Grace G., Norton
 Walker, Arthur E., Anthony
 Wesley, Parker Fiske, Haviland
 Wilson, William Preston, Onaga

Let us stand for a moment with bowed heads in honor of our departed brothers.

—R—

CASE REPORT

Appendectomy for Undiagnosed Gonorrhea—Needless Operation on a 14 Year Old Boy

MAURICE A. WALKER, M.D.,* and

LAWRENCE E. GROWNEY, M.D.*

Kansas City, Kansas

In the male, gonorrheal infection of the urogenital tract only rarely causes symptoms suggesting intra-abdominal disease. Careful examination of the patient, regardless of his age, should result in avoiding an error in diagnosis and subsequent unnecessary operation such as we have to report.

REPORT OF CASE

On January 28, 1934, a white boy, 14

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years old, was taken by his father to his family physician about 24 hours after he first complained of pain in the abdomen. Because there was some tenderness in the right lower abdomen, the physician had him taken to Providence Hospital for further study. His temperature was 101.6° F.; pulse rate, 80; and respiratory rate, 28. The urine contained a few pus cells. There were, in each cubic millimeter of blood, 13,800 leukocytes, 82 per cent of which were polymorphonuclear neutrophils. A diagnosis of acute appendicitis was made, and preparations were begun for operation. It was then discovered that the patient was indigent.

To one of us (L.E.G.), as county physician, the superintendent of the hospital described by phone the circumstances of the case, the symptoms of the patient, and the diagnosis of the physician with recommendation for immediate operation. Since the situation seemed clearly defined, we went to the hospital and, without further examination, began the proposed operation.

Spinal anesthesia was used. The peritoneal cavity contained no free fluid. There was considerable redness of the peritoneum, most noticeable in the right iliac fossa. The appendix, however, was otherwise normal in size and appearance; after removal, histologic examination showed slight acute periappendicitis, as evidenced by the presence of polymorphonuclear leukocytes in engorged vessels beneath the serosa. The remainder of the peritoneal cavity was examined by inspection and palpation. Other pathologic changes were not found.

So far as the operation was concerned, the patient had an uneventful convalescence. The second day, however, he complained of a painful swelling in the right scrotum which, when examined, was typical of acute epididymitis. In a smear of a creamy discharge that could be milked out of his urethra, there were many pus cells; numerous extra-cellular and intra-cellular gram-negative diplococci were present. The boy then admitted that the swelling had been present from the day before he was first seen by his physician, and that he had acquired the infection in the usual manner.

**UNIVERSITY OF KANSAS MEDICAL
SCHOOL CLINIC****Meningitis Following Spinal Anesthesia**

THOMAS G. ORR, M.D.,* and

MERVIN J. RUMOLD, M.D.*

Meningitis, as a complication of spinal anesthesia, is quite rare. The following case is reported because of its rarity and because it illustrates one of the possible dangers of this method of anesthesia.

R.J.N., white male, aged 31, was admitted to the University of Kansas Hospital on March 9, 1933. He gave a history of injury to the right internal semilunar cartilage ten days before admission. The history and physical findings were typical of an injured cartilage and operation was recommended. He had a slight bronchitis which delayed operation for six days. He was operated upon on March 16, 1933, and the right internal semilunar cartilage was removed; spinal anesthesia was used. One hundred milligrams of novocaine dissolved in three cubic centimeters of spinal fluid were injected slowly into the third lumbar interspace in the routine manner used in this hospital. Three minutes before the anesthetic was given, and ten minutes before the operation was started, a three-fourths grain dose of ephedrine was given by hypodermic. The patient's condition during the operation was uneventful. The blood pressure rose from 150 to 182 and dropped to 167 when the operation was finished. The pulse ranged between 72 and 95. Immediate recovery from the anesthetic was normal. The following day he complained of headache and severe pain at the site of the operation. His temperature was 100.8° and he was very restless. The second day he was semi-comatose and was roused with difficulty. His headache was severe. His face was flushed and covered with perspiration. His pulse was 106. The neck muscles were quite rigid. There was hyperesthesia over the entire body. The temperature per rectum was 104°. The Kernig sign was

positive. At this time, he presented a typical picture of meningitis. At 3:00 p.m. of the second day, he appeared much worse. A spinal puncture was done and cloudy fluid was obtained. About 40 cubic centimeters of spinal fluid were withdrawn, and without waiting for a microscopic report, 15 cubic centimeters of anti-meningococcic serum were given. At 1:00 a.m. the third day, a second spinal puncture was done which was repeated a third time at 3:30 p.m. A smear was made from this spinal fluid which did not reveal any organisms. A culture made at the first puncture showed short chain, gram positive micrococci which were identified as non-hemolytic streptococci from five different culture tubes. The blood count at this time showed a normal red blood count and hemoglobin. The white blood count was 22,350 with 90 per cent polymorphonuclears. The urine showed a trace of albumin. The third day following the operation he appeared to be improved. The temperature was 99.2° and his pulse was 80. The blood pressure was 180/90. He was easily aroused and was interested in surroundings. On the fourth day, he still complained of much pain in the back of his head, although his general condition had markedly improved. Two spinal punctures were done on the fourth day and 80 cubic centimeters of fluid were removed. Anti-meningococcic serum was repeated at each puncture. During the fifth and sixth postoperative days, the temperature ranged from 99° to 101°. It dropped to normal on the seventh postoperative day with only a slight rise above normal thereafter. The headaches persisted for ten days following the operation. During this time, the rigidity of his neck muscles gradually decreased. He was up in a wheel chair on the 14th postoperative day and left the hospital on the 16th postoperative day. His wound was healed and his meningeal symptoms had entirely disappeared.

DISCUSSION

The case here reported showed the typical signs and symptoms of acute meningitis. The type of meningitis not being known when the first lumbar puncture was done, anti-meningococcic serum was given.

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The result of this treatment seemed to warrant the further use of the serum in spite of the discovery of the streptococcus in cultures made from the spinal fluid. Smears of the centrifuged spinal fluid at the second puncture did not show any organisms, although repeated observations were made. The diagnosis of streptococcal meningitis might be questioned because of failure to find the micro-organisms in smears. Cultures were made and found positive in five separate tubes after the first puncture, but all cultures were negative after the first dose of anti-meningococcal serum.

The source of the streptococcal infection is, of course, not known. It may have been introduced by the spinal puncture needle or might have been in the blood stream localizing at a point of lowered resistance in the meninges after the introduction of the anesthetic. The patient had just recovered from an acute respiratory infection. He also had extensive infection about his teeth. Reynolds and Wilson¹ call attention to experimental work by Ayer and Felton showing that meningitis may be produced in infected animals by the mere withdrawal of spinal fluid. Hammer² also refers to similar experimental results by Wegeforth and Latham.

The rarity of meningitis as a sequel to spinal anesthesia is evidenced by a report of Babcock³ who collected 250,895 cases of spinal anesthesia with 95 deaths in which meningitis is not mentioned as a lethal factor. Hurxthal⁴ discusses sterile meningitis following lumbar puncture and records a case of streptococcus meningitis seen in consultation which recovered after repeated cisternal and lumbar drainage plus saline irrigations. Hammer records a case of suppurative meningitis causing death 35 days following diagnostic lumbar puncture. In an analysis of 120,000 cases of spinal anesthesia given by 22 Roumanian surgeons Angelesco and Tzovaru⁵ found five deaths due to meningitis (3 septic and 2 puriform aseptic).

Reynolds and Wilson have discussed aseptic meningitis following diagnostic lumbar puncture recording three cases with recovery. Their patients all had fever, stupor, stiff neck, Kernig's sign, delirium and a pronounced increase in

cells in the spinal fluid without discoverable organisms by smear or culture. There is abundant evidence in the literature that spinal anesthesia may often cause irritation of the meninges, ganglion cells and nerve fibers, resulting not infrequently in neuritis or paralysis⁶.

That one may not despair of life in an individual with streptococcal meningitis is emphasized by Rennie⁷ who reports a recovery from non-hemolytic streptococcal infection, and collects 46 cases with recovery from the literature. Rothschild⁸ noted two reported cures and records a third recovery following non-hemolytic streptococcus meningitis.

The treatments that have been generally used are ventricular, cisternal and spinal punctures, saline irrigations, anti-streptococcal serum and anti-meningococcal serum plus sedatives and general supportive measures.

SUMMARY

A case of non-hemolytic streptococcus meningitis with recovery following spinal anesthesia is recorded.

True meningitis following spinal anesthesia is rare. Aseptic meningitis as a result of lumbar puncture is apparently a definite clinical entity. There is much recorded evidence that spinal anesthesia frequently causes irritation of the central nervous system which may result in neuritis or paralysis.

Streptococcal meningitis must not be considered incurable.

The danger of meningitis from spinal puncture is probably greatly increased in patients having acute infections.

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TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Public education has removed most of the obstacles in the way of effective control of tuberculosis. Yet in some respects public education has fallen short of the mark. It has not, for example, brought to the clinic or the doctor's office all persons who have tuberculosis. This in no wise discredits the effort made to persuade people to "let the doctor decide." It points rather to the need of case-finding methods not solely dependent on the initiative of the patient. J. Burns Amberson outlined at the Annual Meeting of the National Tuberculosis Association some principles of case-finding, abstracts of which are here presented.

Case-Finding Methods

Case-finding methods predicated on public education and persuasion to consult the doctor have these weaknesses:

a) Two-thirds to nine-tenths of patients with early symptoms of tuberculosis have no definite or alarming symptoms. Chronic cough, expectoration, blood spitting and weakness usually mean that the disease is advanced. "Faint glimmering warnings do not bring us up short and send us running for news and succor."

b) The physician will miss detection of a great many early lesions by physical examination unless he also uses the *x-ray*.

c) The tendency to postpone treatment until the tubercle bacillus is found in the sputum is dangerous for by that time the lesion probably has entered the second stage with cavity formation.

d) Severity of symptoms is not necessarily a measure of rapidity of spread of the lesions. Particularly in adolescents and young adults serious extensions may occur in a few days.

FACILITIES AND METHODS NECESSARY

Present day case-finding machinery consists of tuberculin testing, *x-ray* (radiography and fluoroscopy), physical examination, laboratory testing and accessory instruments for differential diagnosis. Since it is not yet possible to examine every member of the population it is

desirable to select groups of people who are accessible for examination and in whom tuberculosis is likely to be prevalent. These include: contacts, school children, industrial groups, groups aided by public funds, university students, nurses and army recruits.

In selecting groups to be examined age should be given great weight. Lesions of the childhood type may easily be discovered in children in the age period 2 to 15 years, but most of these are small and tend to heal spontaneously. It is probably more to the point to direct attention to the adolescent high school group. The incidence of serious tuberculosis rises abruptly in adolescence and early adult life, especially among girls. Discovery of the disease in these groups followed by prompt treatment yields excellent results. Fellows, who examined large numbers of employees of the Metropolitan Life Insurance Company, reports that among the cases found who were treated and returned to work the relapse rate during seven years has been only 8 per cent.

Race also should be taken into account. The Negro, while he is no more likely to develop tuberculosis than the Caucasian, usually becomes more seriously sick and dies if it does develop. And since the disease in the Negro usually runs a more acute course the dissemination of huge numbers of tubercle bacilli is more likely.

Physician's patients constitute another important group for finding cases of tuberculosis. "The day will come when most physicians will have fluoroscopes in their offices, and will be sufficiently trained to use these, not only as an essential aid in the detection of early tuberculosis, but also as a means of perfecting diagnostic accuracy in many other conditions. The physician will become conscious of the great advantage of viewing the chests of practically all his patients. He will be especially diligent with the susceptible groups mentioned and with other groups such as the syphilitics, the young diabetics, and the silicotics, all of whom are known to have a high incidence of tuberculosis. He will have in mind experiences like that of Fellows, who discovers two-thirds of his cases on routine examination and only one-third because the patients come in

with symptoms, and who finds diagnostic signs on physical examination in only about one-half of those with definite lesions."

Some Case-Finding Principles of Practical Significance, J. Burns Amberson, Transactions, Nat. Tuber. Assn., 1934.

—R—

CANCER SURVEY OF KANSAS

FRANK LESLIE RECTOR, M.D.*

Evanston, Illinois

(Continued from August Journal)

ORGANIZED CANCER SERVICE

Surveys made by the American Society for the Control of Cancer have shown that the average general hospital does not have, nor can it be expected to have, adequate facilities for the diagnosis and treatment of malignant disease. The small number of such patients (2 to 3 per cent) cared for, the cost of necessary equipment, especially deep therapy and radium, the absence of staff members with training and experience needed to insure competency in diagnosis and treatment, all suggest that the hope for an improved service to these patients rests in the development of adequate facilities in a few institutions where satisfactory work can be done.

In cooperation with the American Society for the Control of Cancer, the American College of Surgeons, through its Committee on Treatment of Malignant Diseases, has outlined the following types of institutions for the treatment of cancer:

1. Cancer institutes.
2. Cancer hospitals.
3. Cancer clinics in general hospitals.
 - a. Complete cancer clinics.
 - b. Diagnostic cancer clinics.

The quotations that follow, unless otherwise noted, are taken from the pamphlet of the American College of Surgeons entitled "Organization of Service for the Diagnosis and Treatment of Cancer," June 1931.

Cancer Institutes: "A cancer institute is an organization equipped with hospitals and laboratories especially organized and conducted for carrying on research in relation to the nature of cancer and its diagnosis and treatment as well as for the clinical diagnosis and treatment of actual cancer patients. Institutes of this nature require very considerable endowments or such generous annual appropriations as can be obtained, usually only from the state or

national government. They are undoubtedly the most effective method of dealing with the cancer problem, but their cost is such that their number will inevitably be somewhat restricted."

Cancer Hospitals: Cancer hospitals are devoted exclusively to diagnosis and treatment of cancer and allied diseases. They differ from cancer institutes in that major emphasis is placed upon clinical work rather than upon research. At the present time not more than twelve such hospitals are found in this country.

"Such organizations require a very considerable financial support either by endowment or by annual appropriation. Hospitals of this nature may be supported by the State Department of Health, as in Massachusetts; by state universities, as is the Cancer Institute of the University of Minnesota; or partly by endowment and partly by annual subscription, as in the case of those organized under private enterprise. Institutions of this nature are coming into existence as special departments of existing hospitals in many places."

Cancer Clinics in General Hospitals: "Where funds sufficient for the maintenance of cancer institutes, research laboratories, or special cancer hospitals are not available, the demand for improved service for cancer cases has resulted in the organization of special cancer clinics in existing general hospitals and of cancer diagnostic clinics in many places. The reason for the organization of these special cancer clinics is primarily the fact that the field of cancer diagnosis and cancer treatment has developed so widely in the past few years that only by the organization of a group of representatives of the different departments of a hospital can the full resources available at the present day for the treatment of cancer be made accessible to the individual patient. Many general hospitals are equipped with the material and apparatus needed for the treatment of cancer, including high voltage x-ray, and a sufficient amount of radium, but a separate organization is required to make this equipment available for the cancer patient and to secure the necessary consultation and cooperation from the different members of the hospital staff who are interested and competent in this field."

Cancer Diagnostic Clinics: Hospitals unable to meet fully the requirements for a cancer service as outlined previously but which have staff members interested in cancer and a laboratory with equipment and personnel able to interpret the histological findings may offer a cancer diagnostic service of value to the community.

Cancer diagnostic clinics may be organized in smaller communities where modern x-ray equipment and an adequate supply of radium is lacking. The object in establishing such a clinic is to provide better diagnoses upon cancer patients, to furnish a group judgment concerning the proper means of therapy to be employed, and to educate the medical public concerning this important group of diseases. Medical men in the community should be encouraged to bring patients to such a clinic, accompanied by a complete record of the history and physical examination. When a diagnosis shall have been reached and a line of treatment suggested, the surgeon or physician will be free to continue the care of his own patient as he may see fit.

*Field Representative, American Society for the Control of Cancer, New York, N. Y. Clarence Cook Little, Sc.D., Managing Director.

Minimum Standard: The American College of Surgeons* has promulgated minimum standards for cancer clinics in general hospitals. These standards can be put into effect in whole or in part as local conditions indicate. They are as follows:

- "1. Organization—There shall be a definite organization of the service, and it shall include an executive officer and representatives of all the departments of the hospital which are concerned in the diagnosis and treatment of cancer. The services of a secretary and of a social service worker shall be available.
- "2. Conferences—As an essential feature of the service, there shall be regular conferences or consultations at which the diagnosis and treatment of the individual cases are discussed by all members of the clinic who are concerned with the case.
- "3. Patients—Reference to the cancer clinic of all patients in whom the diagnosis and treatment of cancer is to be considered shall be either voluntary or obligatory in accordance with the vote of the medical staff or of the governing board of the hospital.
- "4. Equipment—In addition to the diagnostic and therapeutic surgical equipment which is required in every approved general hospital, there shall be available an apparatus for *x*-ray therapy of an effectiveness which is generally agreed upon as adequate, and an amount of radium sufficient to insure effective treatment.
- "5. Records—In addition to the records which are required in every approved general hospital, there shall be additional records of:

- (a) The details of the history and of the examination for cancer in different regions of the body, such as are indicated on the form records which are recommended by the Committee on the Treat-

*Surgery, Gynecology, and Obstetrics, June, 1931. Also published as a separate pamphlet by the College.

ment of Malignant Diseases, American College of Surgeons.

(b) The details of the treatment by radium or *x*-ray as indicated on the form records which are recommended by the Committee on the Treatment of Malignant Diseases, American College of Surgeons.

(c) Periodic examinations at intervals for a period of at least five years following treatment.

"6. Treatment—The treatment of cancer patients shall be entrusted to the members of the staff of the cancer clinic except in cases in which adequate treatment in accordance with the collective recommendation of the staff of the cancer clinic can be procured otherwise."

A discussion of some of the problems connected with an improved service for cancer patients, especially with some of the personnel problems involved, may be in order.

PATHOLOGIST

While it does not come within the scope of this report to evaluate the training and ability of pathologists properly to interpret cancer tissues, it may be well to point out that special training and considerable experience are necessary to competency in this field. While the preparation and staining of tissue may be carried out by a technician, the best interests of the patient may be served only when the interpretation of that tissue is made by a physician with adequate training and experience in this special field.

CHART OF ORGANIZATION FOR CANCER SERVICE IN GENERAL HOSPITALS

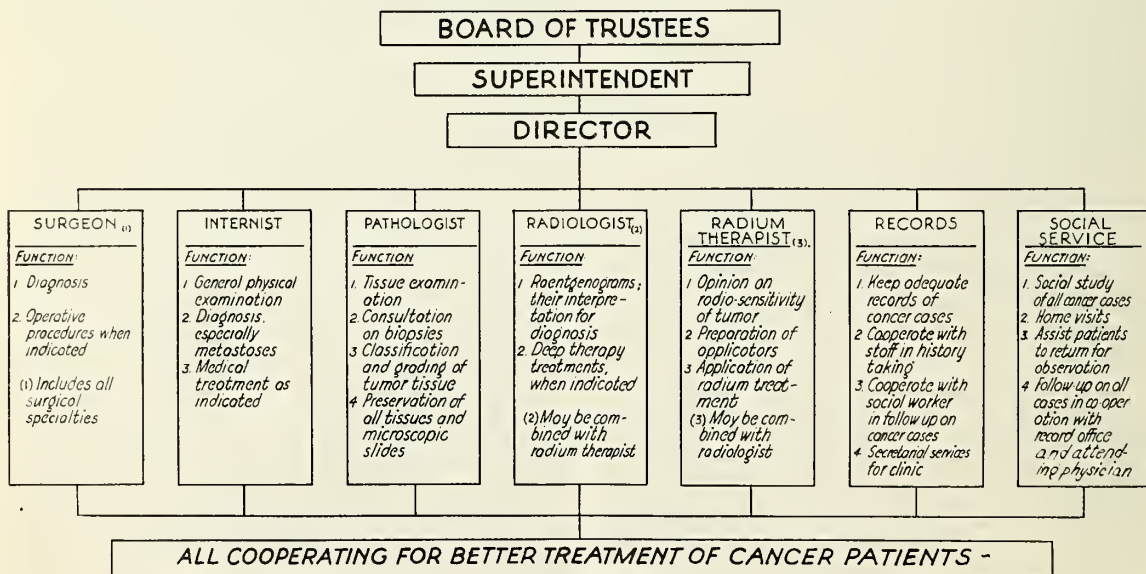


FIG. 12

The training and experience necessary for accurate interpretation of tumor tissue is much beyond that requisite for many other branches of clinical pathology, and the physician who equips himself for this form of medical practice should be granted better recognition in the staff organization that he now receives in many hospitals. As he is unable to share in fees collected by the surgeon and diagnostician, although a major responsibility for proper diagnosis and treatment often rests on him, he should receive remuneration in keeping with these responsibilities. The pathologist is one of the key men in an adequate diagnostic cancer service and men competent in this field cannot be expected to enter it unless their position is recognized and their remuneration more in keeping with their ability and responsibility than now prevails in many cases.

The pathologist to be capable in the diagnosis of tumor tissue, must at times move out of the laboratory and into the ward and operating room. He should see the patient at the bedside and have a voice in the decision on biopsy and where one should be taken if indicated. If biopsy is to follow exploratory incision, he should select the tissue for examination and by frozen section tell the surgeon just what he is dealing with so that indicated procedures can be effectively carried out. Chemical analysis of secretions and excretions often throws much diagnostic light on the character of the tumor. The pathologist must be able to interpret the physiologic, chemical, physical, and clinical observations in addition to the microscopic picture of the stained specimen. If he is confined to his laboratory seeing only such tissues as are submitted to him, he cannot do justice to his work or to the patient. His interpretations are all the more valuable when he has the added clinical experience and information that a consultation on these cases would give.

The attempt to develop a special cancer service in hospitals without laboratory equipment for tissue diagnosis or personnel to interpret such examinations would be a procedure of doubtful value. A false sense of security in the reliability of diagnostic procedures would be engendered that would make for delay in securing adequate treatment in many cases.

The qualifications of a clinical pathologist are given in the Journal of the American Medical Association, October 14, 1933, page 1233, as:

One who is a graduate in medicine having had satisfactory training and experience in pathology, chemistry, bacteriology, or other allied subjects for at least three years subsequent to graduation, who is in good standing and has been duly licensed to practice medicine.

The pathologist shall be on a full or part-time basis with a laboratory for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods, for the purpose of ascertaining the presence, nature, source, and progress of disease in the human body. He shall devote the major part of his time to work in this field.

The pathologist may make diagnoses only when he is a licensed graduate of medicine, has had satisfactory training and experience in pathology for at least three years subsequent to graduation from medical college, is reasonably familiar with the manifestations of disease, and is competent to make reliable reports.

ROENTGENOLOGIST

There is a wide difference of opinion among roentgenologists as to the optimum dosage of x -ray in cancer therapy. Some hold that voltages of 150,000 or less are as penetrating, if applied over a sufficient length of time, as voltages of 200,000 or more. It is realized that this question is still undecided, but undoubtedly the trend is toward higher voltages and heavier filtration. The majority of hospitals devoted exclusively to treatment of cancer and allied diseases, as well as the minimum standards of the American College of Surgeons for the treatment of malignant diseases, have set 200,000 volts as a minimum for acceptable deep therapy. Voltages of 700,000 and more have been installed in New York, Detroit, Chicago; Lincoln, Nebraska, Seattle, and Los Angeles, and equipment of still higher voltages is reported under construction or projected.

Of equal importance with installation of deep therapy equipment is the frequent calibration of the tubes to see that the indicated voltage is being delivered. Such measuring devices should be attached at all times to such equipment, but where this is not feasible, the output of the tube should be measured at regular intervals.

Dangers arising from the use of this highly specialized form of therapy by physicians without adequate training in either the physics or therapeutics of its application should be emphasized. A powerful force, about which much remains to be

known, is brought into play when deep therapy treatments are given. Not only should the operator be thoroughly familiar with the general physical and therapeutic reactions of this force upon the human system, but he should appreciate differences in reaction that take place in different individuals. The use of such equipment for additional revenue, without a thorough knowledge of its physiological effects, cannot be defended on any grounds of medical science. The welfare of the patient must be held paramount to all other considerations entering into his treatment and the use of *x-ray* for any purpose does much to discredit the legitimate use of this form of therapy in the hands of capable physicians.

The qualifications of a roentgenologist are given in the *Journal of the American Medical Association*, February 11, 1933, page 414, as follows:

The candidate shall be a graduate of a medical school that is approved by the Council on Medical Education and Hospitals and shall be licensed to practice medicine in the state in which his department is located. He shall also have had special training, such as is approved by the Council, in radiology, roentgenology or radium therapy at an acceptable school—preceptorship, hospital or clinic, department of radiology, roentgenology or radium therapy—for a period of at least three years, or, in lieu of such training, shall have had a minimum of five years' experience in the exclusive practice of radiology, roentgenology or radium therapy. He must be a man of good standing in the medical profession, and particularly among those specializing in radiology. He shall either be on a full-time basis or have definite hours of attendance at the department, such hours to be ample to insure the element of medical consultation in every examination or treatment.

In its Hospital Standardization Report for 1933, page 29, the American College of Surgeons lists the qualifications of a roentgenologist as follows:

"The director of the *x-ray* department must be a graduate physician licensed to practice medicine, ethical, in good professional standing, and having had special training in radiology. He should be responsible not only for general supervision of the department but for interpretation of all findings. Radiotherapy must also be under supervision of a skilled physician. . . . At all times the utmost cooperation between the radiologist and the medical staff is desirable. The former should not only be present at clinical conferences, but should also take an active part in the discussion since his contribution may be of distinct value in furthering the education of the staff."

RADIUM THERAPIST

Radium is one of the newest and most powerful agents known to medical science and its possibilities for harm when used

by physicians without adequate training and experience are so great that its application to human patients should be surrounded by all the safeguards medical science can suggest. Objections raised to the use of radium are dependent largely on poor results obtained in the hands of inexperienced users. Failure by the profession in general to use this agent is more to be commended than criticised, and only brings out in marked contrast the unsatisfactory results obtained by physicians who use radium occasionally without any preparation or experience. As the proper use of radium and radon requires a high degree of skill and training and a special knowledge of their effects on human tissue, the welfare of the patient usually is better safeguarded by accepted surgical procedures than by irradiation at the hands of untrained physicians.

The use of rented radium by untrained physicians is a procedure for which no commendation can be offered. More often than not, such physicians have had no special training in the use of radium and the patient will receive little lasting benefit from such treatment. The mere possession or use of radium is no more a criterion of competency in that field than would the possession of a set of surgical instruments indicate competence as a surgeon.

Safeguarding the use of roentgen rays and radium so that the public may in time know that those who offer such treatment are reasonably competent is being given serious consideration by national organizations in the radiological field. Plans are being perfected whereby physicians, wishing to be recognized as specialists in this field, will undergo examinations by a board of qualified radiologists and, if their competency is established, will be given certificates entitling them to be classed as specialists in this particular field.*

Medical publications could render a distinct service in the control of this problem by refusing advertisements of organizations offering to rent radium indiscriminately. As the public becomes better informed regarding the necessity for ade-

*Since this survey was completed the first examinations for licenses as specialists in radiology have been held. Such examinations will be held regularly hereafter.

quate experience on the part of those offering irradiation therapy, and as the medical profession realizes the intricate problems surrounding this form of therapy, present abuses will be eliminated and an improved service rendered to cancer patients.

As far as known, no hospital or cancer institute in this country having radium or producing radon will permit its use by other than qualified members of their own staffs.

In the Province of Saskatchewan, Canada, radium has been made available by legislative appropriation. Its use is controlled by a commission of three physicians and it can be used only under the personal direction of the radiotherapist on the commission. Physicians must bring or refer their cancer patients to the clinics maintained by the commission. Regulations governing the care of radium supplies, issued by the Saskatchewan Cancer Commission provide that

17. Where a medical practitioner desires the use of radiotherapy on a patient, the equipment of the Commission may be made available under the following conditions: The case shall be submitted to the consultative diagnostic clinic, and, (a) its recommendations for the use of radiotherapy obtained; (b) the radium to be applied under the direction of the radiotherapist of the clinic; and (c) the fees for the use of the radium to be paid, as prescribed by the Commission.

SOCIAL SERVICE

Social service work is of primary importance in an acceptable cancer service. It is most important that all cancer cases be followed carefully over a long period subsequent to their treatment either by private physicians or by hospitals. At the present time too little is known about the health of cancer patients after treatment, and as a knowledge of their subsequent condition is the only practical criterion of the effectiveness of their treatment, it is essential that facilities be provided for obtaining periodic information regarding such cases.

This work can best be done by a well trained and experienced medical social worker who will not only relieve the physician of a responsibility which at times is most difficult for him to discharge without seeming to be too solicitous about his patients, but will also provide him with information essential to the improvement of his practice and will assist in the gathering

of data most necessary to a further and better understanding of present methods of diagnosis and treatment of cancer patients.

The functions of a social service department in a cancer service may be summarized as follows:

1. To the patient and his family make clear just what is involved in the plan of treatment and assist when needed in carrying out the plan. Study social and economic problems involved and suggest a plan for their solution. Stimulate the morale of patients and encourage them to continue under observation and treatment.

2. Inform the physician in charge of the case of the social and economic problems involved and the personality factors that should be considered in treating the case.

3. To the community, the cancer service, its policies and procedures, can be presented in an understanding manner as can also the needs of the patients being cared for. The relationship of the community to the entire cancer problem can be exemplified at times by a single case involving the attention of various medical and social agencies.

In the absence of medically trained social workers, public health nurses or visiting nurses can often obtain the necessary information regarding cancer patients. In the course of their daily work they may discover information of value to physicians and hospitals having an interest in these cases.

Some authorities say that no attempt should be made to organize a special tumor service until trained social workers are available. In the Report of the Royal Commission on the Use of Radium and x-Rays in the Treatment of the Sick of the Province of Ontario, it is stated on page 102

That in the successful treatment and control of cancer, it is essential that every patient be closely followed up so that he or she may be induced to return for observation at regular intervals. For this purpose every centre should possess an active Social Service. The duties of a Social Service should include not only the keeping track of patients and bringing them to the treatment centre, but also the supervision of home conditions, and the securing for such cases of moral, and, if required, financial aid.

Again, on page 106 of this same report the Commission recommends

That, in connexion with every centre, the most careful and exact records of cases be kept, and that a Social Service be maintained for the purpose of "following up" all patients.

RECORDS

In addition to the professional facilities suggested for specialized cancer services in general hospitals, adequate provision should be made for recording not only the

regular data found in all well kept hospital records, but additional information regarding cancer. To be of the most value, such records should be comparable for all hospitals so that an increasing volume of accurate information about cancer gradually will develop. The American College of Surgeons has formulated a cancer record that it will gladly place at the disposal of any hospital. This blank offers a uniform method of record keeping and may well form the basis of the record adopted in an organized cancer service.

The record clerk might well act as clinic clerk while patients are being examined. By so doing, a clearer insight can be obtained of the patient's problem which should result in a more comprehensive recording of all essential data bearing on the case. The record department should work in close cooperation with the social service department in coordinating and analyzing information for the clinic staff and attending physician.

The accompanying chart indicates some of the functions and relationships of various elements in an organized cancer service. The ultimate type of organization will depend upon the needs of each group.

CANCER PREVENTION AND CONTROL IN KANSAS

The following facts bearing on the cancer problem in Kansas have been developed in this survey.

While the general death rate of the state is declining in keeping with other sections of the United States, the cancer death rate is rising. The increase in cancer death rate during the last 20 years has been 82 per cent while the increase in the population of the state during this same period has been 10.9 per cent.

Analysis of cancer admissions to the general hospitals of the state of 25 beds and over shows that 1,399 cancer patients were hospitalized during 1932. Of this number 261 died and 88 came to autopsy. Fifty-three, or 60 per cent, of the cancer autopsies were performed in Kansas City hospitals.

All general hospitals in Kansas admit cancer patients although in two or three such patients, when possible, were referred elsewhere for treatment.

Fifteen hospitals reporting in this survey are without laboratory facilities for

tissue diagnosis. In many of these hospitals only such cases are examined by outside laboratories as the physician in charge indicates. Medically trained pathologists, devoting all or a major portion of their time to the work, were found in Chanute, Kansas City, Salina, Topeka, and Wichita, while a nonmedical pathologist in Hutchinson examines tissues for several hospitals in that vicinity. While no pathologist, as such, was found at the Halstead Hospital, all tissues are examined by the chief surgeon and patients have an acceptable service in this regard. Several of the smaller hospitals of the state refer selected tissues to pathologists in the cities mentioned above.

The latest list of approved clinical pathologists in Kansas published in the Journal of the American Medical Association, October 14, 1933, contains but four names, one each in Kansas City, Salina, Topeka, and Wichita. Eight other names appear in Kansas City, Missouri. This lack of pathologists in hospitals of the state undoubtedly explains in large part the unsatisfactory laboratory and autopsy situation and the Kansas Medical Society might well give serious attention to this situation.

If all tissues now discarded were examined, undoubtedly some diagnoses and treatments would be changed to the benefit of the patient. Many hospitals reported that present economic conditions would not permit routine examination of all removed tissues and they were obliged to use their best judgment in selecting tissues to be sent away for examination.

With full appreciation of the present financial situation throughout the state, it is felt that no commendation can be offered those hospitals and surgeons who summarily discard all removed tissues without having such tissues examined by a competent pathologist. In such cases the interests of the patient might be better served if indicated surgical procedures were deferred, barring emergencies, until the patient could reach an institution where adequate laboratory facilities are available. As an alternative, arrangements might be required of all hospitals for the examination of removed tissues in acceptable laboratories with reports returned at the earliest possible moment.

(Continued on Page 354)

THE JOURNAL

of the

Kansas Medical Society

EARLE G. BROWN, M.D. - - - Editor

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EDITORIAL

W. M. MILLS ELECTED EDITOR

At the June 29 meeting of the Executive Secretary Committee held in Topeka, Dr. W. M. Mills was named as editor of the JOURNAL. Due to the fact that he was out of the state at the time, announcement was withheld until he could be notified by the committee. The formal announcement will be found in the special committee report by Dr. Tihen.

The retiring editor has served slightly more than two and one-half years. He welcomes the opportunity to relinquish the JOURNAL management to Dr. Mills.

Dr. Mills will be assisted by an editorial board to be selected by the Executive Secretary Committee. He deserves the sincere

cooperation of every member of the Kansas Medical Society.

MENTAL HEALTH

The mental health of the community has become one of the major problems facing the medical profession and yet it receives scant attention as compared to general medical and surgical problems. The following facts indicate the immensity of this problem:

The average daily population of nervous and mental hospitals is 434,557 against 373,000 in all other hospitals in the United States.

The average percentage of occupied beds in mental hospitals is 101.7 per cent as against an average of 80.4 per cent in all other hospitals.

There were 173 million patient days in mental hospitals in 1933 as compared to 85 million in general hospitals, 22 million in tuberculosis sanatoriums, and around 16 million in other special hospitals.

The average daily population in mental hospitals increased from 395,407 in 1929 to 434,557 in 1932.

Nervous and mental hospitals contain 47.7 per cent of all hospital beds.

There are 347.6 persons per 100,000 of the general population in nervous and mental hospitals.

In 1932, 135,286 patients entered nervous and mental hospitals (111,415 new patients and 23,871 readmissions).

But these startling figures do not nearly represent the amount of mental ill health. In a recent report of a series of questionnaires to general practitioners Ziegler found that between 25 and 40 per cent of all patients coming to the general practitioner failed to show any organic physical disease. Many practitioners, surgeons, internists, and even men in special fields have indicated to me that these figures were lower than the estimates of their own practice. And when to these facts we add

the large number of alcoholic and drug addictions, the psychopathic personalities that never come to the doctor, the mass of feeble-minded individuals, the great group of ne'er-do-wells, the disturbers of the social order, and other ill-defined groups, we have probably twice or three times the number of patients admitted to the nervous and mental hospitals.

The great prevalence of mental ill health is a stupendous problem; the actual cost to the community in money is a very major item; the loss of the individuals and the damage they may produce is probably a much larger figure not even estimable in dollars and cents.

Is there a remedy? Is there any hope? Can the medical profession do anything about it more than it is doing? The answer is yes. First, the installation in our medical schools of more adequate courses in medical psychology and psychiatry so that the doctor may recognize more clearly and handle more intelligently those illnesses in which he doesn't find an indication for pills or ultra-violet light or surgery. Second, the education of the medical profession to the recognition of the psychological factors in illness, both mental and physical. Third, the correction of many mistaken ideas about mental health held by a few of the profession and most of the laity, such as that mental illness is the result of sin or meanness or perversity, that mental illness is a disgrace, that a nervous breakdown is a disease of the nerves, and similar misconceptions. Fourth, the spread of mental hygiene—the science of the prevention of mental ill health—which recognizes that mental health is obtainable and the failure to have it is often a matter of ignorance of the general principles. Fifth, the necessity of improvement of the psychotherapeutic armamentarium of the practitioner beyond placebos and platitudinous admonitions of

“cheer up and forget it”, “take a trip”, “don't worry about it”, “get busy and forget yourself”.—W.C.M.

EDITORIAL COMMENT

Mme. Curie, co-discoverer of radium who died on July 4, was the first woman to be elected to the French Academy of Science.

Three milk-borne typhoid epidemics and one milk-borne diphtheria epidemic have been reported in the state within the past two months.

Thirty of the 68 physicians whose names are included in the necrology report were members of the Kansas Medical Society at the time of their death.

The tuberculosis death rate in Kansas in 1933 was 30.3 per 100,000 population. Only three states had lower rates than Kansas: Nebraska, 21.8; Iowa, 25.5, and Wyoming, 27.7. In Kansas, 1.86 cases were reported for each death.

According to reports made to the United States Public Health Service, 2,479 cases of acute poliomyelitis have been reported in California from April 1 to August 11, inclusive. In the same period, 23 cases have been reported in Kansas.

The people already possess a considerable store of medical knowledge—a half-knowledge, of course, but enough to be applied as touchstones of their physician's up-to-dateness and of his interest in them. (*Jour. Med. Assoc. of Ga.*)

Six members of the medical profession in the state have been nominated as candidates of their respective parties for representative. Doctors E. L. Morgan of Phillipsburg and W. M. Blount, of Kansas City, are candidates for reelection.

Sneath reports: “In spite of some variation in the degree of response to tetanus toxoid, the antibody production in horses and man is such that tetanus toxoid may be advocated for active immunization whenever such immunization is desirable.” (*Canad. P.H.J.*, April 1934).

THE LABORATORY

Edited by
J. L. LATTIMORE, M.D., Topeka

The Diagnosis of Drunkenness from a Laboratory Standpoint

The accurate and reliable diagnosis of alcoholic intoxication has long been a matter of some concern to the medical profession. Physicians have repeatedly sought in the laboratory a method which would enable them to establish a diagnosis of drunkenness that would withstand the cross-examination of defense lawyers in court and at the same time would be sufficiently rapid and simple in its performance to be included in the general hospital routine.

In legal medicine, such a method would be of value in establishing the responsibility in accident cases, even where the party in question was severely or fatally injured, in confirming the evidence of an officer who has made an arrest for drunkenness, and in evaluating the intoxicating properties of various beverages. In hospital routine, such a method would often simplify the differential diagnosis of coma, particularly in accident cases.

It has been shown by various workers^{1, 2, 3} that a chemical test for alcohol in the blood, urine, or spinal fluid is the only completely reliable means of diagnosing alcoholic intoxication, and further, that the amount of alcohol found in these fluids may be taken as an absolute index of the degree of intoxication, regardless of the tolerance of the individual, the amount ingested, or other variable factors. These observers and others have proposed several technics of analysis, ranging from the long and tedious separation of the alcohol in its pure form by fractionation, and subsequent analysis by the pycnometer or the simpler but relatively expensive refractometer, to the rapid and easily performed, but frequently inaccurate, colorimetric methods which depend on the ability of ethyl alcohol to reduce certain substances, while at the same time forming a product of a color sufficiently different from that of the original substance to render colorimetric comparison feasible. The best of these latter methods, from the

standpoint of simplicity and accuracy, appears to be that proposed by Heise,³ which consists of distilling a small amount of blood or other fluid and treating a portion of the distillate with an acidified solution of potassium dichromate, which changes in color from yellow to blue in the presence of alcohol. The test may be carried out on as little as 5 cc. of oxalated blood or 30 cc. of urine, and according to the author is not affected by any of the normal or abnormal constituents likely to be present in body fluids. The results of numerous experiments³ show a high degree of accuracy and specificity. An added advantage is that the specimens may be preserved with sodium fluoride (for blood) or benzoic acid (for urine) and will retain their alcoholic content, practically unchanged, for at least a month at room temperatures, making the shipment of specimens a simple procedure.

In the light of these facts, the method of Heise would appear to merit consideration for medicolegal diagnosis of alcoholic intoxication and for inclusion in the routine examination of accident cases and patients brought to the hospital in a comatose condition, in addition to the customary sugar, urea, and carbon dioxide combining power determinations run routinely on the latter.

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3. Heise, H. A.: *The Specificity of the Test for Alcohol in Body Fluids*. Amer. Jour. Clin. Path., iv, (1934), p. 182.

—R—

Accidental deaths reported in the state to August 1, show an increase of 22.6 per cent over the total for the same period of 1933. Indications are that the total for 1934 will be the highest ever recorded. Two hundred and six deaths were reported from excessive heat during the month of July and these deaths comprised 56 per cent of the 364 deaths due to external violence, exclusive of suicides and homicides. For the seven months of the present year, 247 deaths have been reported from automobile accidents as compared with 235 for the same months of 1933, an increase of 5.1 per cent.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D., Topeka

PEPTIC ULCERS

The author reports the study of the frequency of the development of peptic ulcers in dogs deprived of pancreatic juice because of fistulas in some and due to complete pancreatectomy in others. Of 16 dogs with fistulas, only one had developed ulcers at the end of a 37 day period. This animal was jaundiced and had marked evidence of degenerative changes in the liver. In the eight animals with complete pancreatectomy, no ulcers appeared at the end of from 61 to 270 days. He compares this data with the reports of various people working with dogs in which bile was excluded from the intestines, and concludes that peptic ulcers develop more readily in dogs after the exclusion of bile than after the loss of pancreatic juice.

Berg, B. N.: Peptic Ulcers. Arch. of Surgery, 28:1057-1061, June, 1934.

AVERTIN ANESTHESIA

The effect of avertin anesthesia on normal people was studied in order to ascertain the uncomplicated effects of the drug. Fifteen cases were observed. The effects were:

1. Increase in pulse rate, average increase being 16 per minute.
2. Increase in respiratory rate, average increase being six per minute.
3. Decrease in amplitude of respiration.
4. An average decrease of 1.3° F. in rectal temperature.
5. An average decrease in systolic blood pressure of 24 mm.
6. An average decrease in basal metabolism of 22 per cent.
7. An average decrease in clotting time of three minutes.
8. A slight rise of blood sugar, a slight fall of carbon dioxide content of the blood and a slight rise of plasma volume.
9. A negligible change in venous pressure, blood cholesterol and cholesterol ester, blood calcium, blood chlorides and formed blood elements.
10. Slight oliguria and an increase in the specific gravity of the urine.
11. Loss of conjunctival and tendon re-

flexes, with a late perseveration of cutaneous and pharyngeal reflexes.

12. Slight cyanosis in two instances, increase in the secretion of mucus, in the pharynx in five instances and a slight vomiting in three instances.

13. No untoward effects followed the use of avertin in the dosage employed in basal anesthesia.

Arnheim, E. E., and Tuchman, L. R.: Avertin (Tri-bromethanol) Anesthesia in Normal Persons. Arch. of Surg. 29:1-15, July, 1934.

ARTERIOSCLEROSIS IN DIABETES MELLITUS

Because of the high and increasing incidence of vascular disease among diabetics and its influence on mortality, various methods for its detection were evaluated statistically. Clinical methods, fundi examination and x-ray of the heart and of the extremities were evaluated as methods for detecting arteriosclerosis in diabetic patients. The authors conclude that a combination of these methods is much better than any single method, and they stress the importance of early diagnosis.

Rabinowitch, I. M., Ritchie, W. L., and Hanford: A Statistical Evaluation of Different Methods for the Detection of Arteriosclerosis in Diabetes Mellitus. Ann. of Int. Med. 7:1478-1490, June, 1934.

GUNSHOT WOUNDS OF THE HEAD

A series of 105 cases of gunshot wounds of the head treated at the Cincinnati General Hospital between 1922 and 1932 are reported. Of these, 96 were craniocerebral injuries. Operations were performed on 31 cases. The mortality rate was 80.2 per cent in the craniocerebral injuries and 45.1 per cent in those cases in which operation was performed. All except eight patients were admitted to the hospital within an hour after injury. Of the 77 deaths, 42.8 per cent occurred within two hours and 90.9 per cent within 24 hours. The high death rate in this series as compared with the statistics of the World War is undoubtedly due to the immediate hospitalization of the patients. That is, those who died within the first two hours after wounded, were often dead before found during battle, so did not die during treatment, whereas, the statistics from the Cincinnati General Hospital include among those who died during treatment, those who died during the first two hours after being shot. In this series of 105 cases there were 56 attempted suicides. Infection was

the main cause of death among patients who did not die as a direct result of the injury.

Goode, John V.: *Gunshot Wounds of the Head*. Arch of Surgery, 29:16-23, July, 1934.

MALARIA THERAPY

Asymptomatic neurosyphilis refers to those cases in which the cerebrospinal fluid is positive but in which there are neither signs nor symptoms of syphilitic involvement of the nervous system. Malaria inoculation was given 89 patients who had previously been given arsphenamine, mercury, bismuth, etc., without producing the serological changes. In some of these the nervous system was mildly infected and in others it was severely infected. Malaria therapy resulted in the reversal of the spinal fluid reaction in 58 per cent of those mildly affected and 30 per cent of those severely infected. Those in which the spinal fluid remained positive were again given chemicals. Since it is believed that asymptomatic neurosyphilis is the forerunner of dementia paralytica or tabes dorsalis, patients with asymptomatic neurosyphilis are entitled to the advantage of malaria therapy, on the basis that it is more valuable in the prevention of tabes or paresis than in the treatment of it.

O'Leary, P. A.: *Malaria Therapy in Asymptomatic Neurosyphilis*. Ann. of Int. Med., 7:1513-1523, June, 1934.

ELECTROPYREXIA

The authors review the literature in electrically produced fever as a therapeutic agent and give the following points in the way of technic:

1. The selection of patients in early cases of neurosyphilis before cellular destruction has taken place.

2. Fever should be maintained at a given height for a definite period 103.5° F. for six hours and two additional hours at 105.8° F. Treatments are given twice weekly and about 20 treatments to a course.

3. Electropyrexia has been used successfully in the treatment of multiple sclerosis. Temperature should never exceed 105° F. Treatment should terminate any time that the patient's pulse exceeds 160 per minute.

4. Fluid loss that occurs in the treat-

ment is replaced by liberal amounts of water containing six grams of sodium chloride per liter. This lessens the vomiting and cramps that result from chloride loss.

5. These methods must be modified to meet the individual reactions that occur.

Osborne, S., and Markson, D. E.: *Electropyrexia: A Resume of Therapeutic Applications and Technics*. Ann. Int. Med. 7:1391-1398, May, 1934.

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Report of the Executive Secretary Committee

At our recent state meeting in May the House of Delegates appointed an Executive-Secretary Committee which was authorized to employ a full-time Executive-Secretary for the State Society and to supervise his activities until the next state meeting.

This committee has been working diligently on these problems. The first meeting was held in Wichita May the 11th. Following this meetings were held at Emporia on June 3rd, at Wichita June 24th, and at Topeka on July the 29th.

A number of very excellent applications were received for this position. These were narrowed down to the six applicants that seemed to offer the best qualifications and these six applicants then met in person with the committee. At this time the qualifications, personality, and the ability of the applicants were carefully studied by the entire committee. On the basis of his work Mr. Clarence Munns was selected by your committee as a full-time Executive-Secretary of the State Society. Some of Mr. Munn's qualifications were stated in the August issue of the JOURNAL. The qualifications and recommendations of this applicant seem to the committee to be of the highest character, and the committee is unanimous in feeling that a very excellent choice has been made and we are unanimous in the feeling that our new Executive-Secretary will fill this position very ably indeed.

Mr. Munns officially started his work the 1st of August and during the month of August is visiting and studying full-time executive offices in other states; namely, in Indiana, Ohio, Michigan, Wisconsin, Missouri, and Minnesota, including a trip to the American Medical Asso-

ciation headquarters. At the end of this trip Mr. Munns will spend several days with Dr. Hassig in Kansas City learning the details of the work that has been going on in our own state office.

In addition to this work the Executive-Secretary Committee met with the Executive Committee of the Council to take up the question of the selection of an editor and an editorial board for the State JOURNAL as per the instructions of the House of Delegates. After considerable discussion the Executive Committee of the Council delegated the selection of the editor and the editorial board to the Executive-Secretary Committee, and this committee is very happy to announce that Dr. W. M. Mills of Topeka has accepted, although reluctantly, the position of editor. The formation of the editorial board is now going on and its personnel will be announced later. Dr. Earle Brown has kindly consented to continue the editorship of the JOURNAL through the August and September numbers until this new board has had a chance to take up its duties.

I want to call attention to the fact that the editor and the editorial board are serving the State Society without any financial remuneration. This will mean that these men will give a great deal of their time and thought to the interests of the State Society. It is only fair that every member of the State Society be willing to give the editor and the editorial board full cooperation and any measure of help that they may wish in fulfilling their duties.

On the return of Mr. Munns from his trip this State Executive office will be established in Topeka.

I wish here to express to each member of the Executive-Secretary Committee my appreciation for the splendid work of this committee and the practically one hundred per cent attendance at the meetings. There is a great deal of work still lying before this committee and a further report will be made to the State Society in several months.

HENRY N. TIHEN, M.D., Chairman

Executive-Secretary Committee.

CANCER SURVEY OF KANSAS

(Continued from Page 348)

At a recent meeting of the Board of Directors of the American Society for the Control of Cancer a resolution was passed stating that, in the absence of adequate laboratory facilities for the examination of tumor tissues, such facilities should be provided by the state in which the situation exists.

Were such facilities available to all hospitals and practitioners of the state, it would enable many physicians in rural communities, without hospital facilities, to render a more adequate service to their patients.

The lack of adequate facilities for laboratory examination of tissues removed at operation in many Kansas hospitals suggests that some method be developed whereby all such tissues be examined. At the present time there is no control over this important activity of hospitals of the state. Serious thought might well be given to the development of legal requirements for examination of all removed tissue.

From the information gathered in this survey, the conclusion seems warranted that in many Kansas hospitals, neither hospital executives nor staffs are actively interested in securing autopsies. In some cases the lack of a pathologist on the staff may account for the small number or absence of autopsies. The absence of internes in many hospitals probably is another reason for inattention to autopsies in these institutions. Sixty-three per cent of all autopsies in 1932 were made in four Kansas City hospitals.

It is believed that were concerted efforts made by the physician in charge of the case, the interne when available, the pathologist, and the hospital authorities, the number of necropsies in Kansas hospitals could be increased materially. Community opposition to such procedures can be overcome by tactful measures on the part of those most interested in the problem.

No cancer services were found in Kansas hospitals organized in accordance with the minimum standards recommended by the American College of Surgeons, and with present facilities, but few Kansas hospitals can meet the minimum requirements because some necessary part of the

organization is lacking, usually laboratory or irradiation facilities or social service.

Two hospitals in Kansas City, Bell Memorial and St. Margaret's have undertaken an improved cancer service that may in time meet the minimum standards. The organization at Bell Memorial Hospital should be expanded to meet the minimum requirements for such service and fully coordinated with medical teaching. The value of the group method of handling cancer patients has been accepted by those with extended experience in the work. That medical students may take advantage of the latest experience in dealing with this disease, a fully organized cancer service should be functioning in this hospital with the study of such patients a required part of the student's training. When practicable, special wards or a special building might well be provided for this service. Patients admitted to this service should be utilized fully for teaching purposes with the undergraduate student body and for postgraduate education.

If and when a special state cancer hospital is established, it should be in connection with Bell Memorial Hospital so that its facilities can be used for educational purposes.

The supply of radium at Bell Memorial Hospital should be increased to 1,000 milligrams, the additional amount to be distributed in containers to provide the greatest flexibility of application. Whether the entire amount should be in needles or whether an emanation plant should be provided is a matter for future decision.

Facilities should be provided at this hospital for social service investigation of all cancer patients. In the absence of full-time, medically trained social workers, it might be possible to assign students from the sociology department of the state university to the study of specific problems in this field.*

The cancer service begun at St. Margaret's Hospital, Kansas City, should be expanded to care for cancer patients in that community not eligible for treatment in Bell Memorial Hospital. Pay as well as indigent patients could be cared for in this hospital. An increased supply of radium,

up to 300 milligrams, would complete the physical requirements. The proper staff organization is a problem for the hospital authorities and staff members to solve.

An organized cancer service to meet the minimum requirements should be developed in Wichita. A capable pathologist, deep therapy, and 100 milligrams of radium are available, and by the addition of 300 milligrams of radium a service could be developed that would meet the needs of Wichita and a large tributary area. If it is not possible to work out an acceptable program under hospital direction, it should be done under auspices of the Sedgwick County Medical Society.

While lack of facilities in hospitals outside of Kansas City and Wichita preclude the development of a complete tumor service, the addition of facilities or personnel to some of them would make an improved service possible. Although the radium and deep therapy in Sterling are available to Hutchinson patients, it is probable that a larger number could be served if this equipment were available in a Hutchinson hospital. By the addition of deep therapy and an increased amount of radium, 150 milligrams, an improved service could be made available in Topeka. Present radium supplies in Chanute and Fort Scott hospitals might be increased as needed to serve more patients in these communities.

Owing to its organization and wide area from which patients come, the Halstead Clinic and Hospital is not comparable to other Kansas hospitals. As this institution has no irradiation facilities, it cannot meet the minimum standards for an organized cancer service. This is said in no criticism of the excellent work carried on in this hospital.

Cancer diagnostic services could be developed in Great Bend, Newton, and Salina. The addition of a pathologist to the professional group in Hays would enable a diagnostic service to be offered in that city.

What has been said is no criticism of physicians in other communities, but is to point out the practical difficulties in providing adequate diagnostic and treatment facilities in these places. As far as the resources of any community permit, the fullest possible service should be rendered

*Since this survey was completed a trained social worker has been assigned to the follow up of cancer patients as her first duty.

to cancer patients, and when conditions are found beyond the scope of local resources, patients should be referred elsewhere for treatment.

While the suggested increases in radium may seem large in comparison to those now available, it should be remembered that the supply of radium in Kansas is very much below that considered advisable for acceptable cancer service. If the entire recommended quantities of radium cannot be procured, any additions to the present supply will in proportion increase treatment facilities of the state.

There are private cancer clinics in Pittsburg and Winfield. The Pittsburg clinic sponsoring this service brings in a radium therapist and radium from Kansas City, Missouri, to supplement its deep therapy facilities. In the Winfield organization neither radium nor deep therapy is available and the radium therapist mentioned above is called on for service. Patients needing deep therapy are referred elsewhere. Whether these private clinics can serve community needs as adequately as similar undertakings under proper hospital organization and control remains to be seen. The Pittsburg clinic reported seeing nearly 300 tumor patients during its first year's work. The operation of these clinics should be studied carefully.

Contact should be maintained with all cancer patients for at least five years after their first treatment. This is not so difficult in smaller communities as it is in larger ones. Such an undertaking requires cooperation of the clinical, record, and social service departments and utilization of official and private health and welfare facilities. The following outline indicates some major factors in such an undertaking.

OUTLINE OF PLAN OF FOLLOW-UP ON TUMOR PATIENTS

A. COOPERATING GROUPS

1. Hospital administrative groups
 - a. Superintendent
 - b. Social Service worker
 - c. Record clerk
 - d. Chaplain
 - e. Nurses
2. Hospital staff
 - a. Cancer committee—if any
 - b. Physician in charge
 - c. Radiologist
 - d. Pathologist
 - e. Internes

3. Community groups
 - a. Department of Health
 - A. Public health nurses
 - B. Bureau of Vital Statistics
 - b. Visiting nurses
 - c. Private health organizations
 - d. Charitable and welfare organizations
 - e. Life insurance companies

B. RECORDS

Records to be entered on forms comparable to all hospitals. The forms of the American College of Surgeons are recommended, not that they are necessarily the best, but offer a form from which comparable data may be obtained. Information as to deaths may often be obtained from the Division of Vital Statistics of the local or state health department.

C. SCHEDULE

Follow-up to be maintained on approximately the following schedule:

Monthly for the first six months

Bi-monthly for six months

Every three months for the second year

Semiannually for three years

Annually thereafter, preferably for life

Information to be obtained by personal contact, by written inquiry, and through cooperating groups noted above. A personal letter is better than a printed form or post-card inquiry.

Life insurance companies will help trace an insured person if the name, number of insurance policy, and name of insurance company are given. They will know if such a person is alive and where located; or if dead, date and cause of death. Inquiries to trace such patients should be addressed to Dr. T. H. Willard, Medical Director, Metropolitan Life Insurance Company, One Madison Avenue, New York, who is chairman of the committee of the insurance companies having this matter in charge. It is suggested that the name of insurance company and number of policy, if any, be added to the record of all cancer cases.

In connection with an improved service for examination of tumor tissues and autopsy material, it would be well to establish a registry at Bell Memorial Hospital where a record of all tumors could be filed. Such a registry should contain a stained and mounted section of tissue, the block from which the section was cut, a short description of the tumor, and a concise clinical summary of the case. The registry collection should be available at all times for study by reputable physicians or students of medicine and allied subjects.

A similar registry might be organized in Wichita when the cancer service recommended previously is organized. The work of this registry should be correlated with that suggested for Bell Memorial Hospital.

Similar registries have been established at the State Laboratory of Hygiene, Madison, Wisconsin, at Laukenau Hospital, Philadelphia, in Washington, D. C.,

Peoria, Illinois, Toledo, Ohio, and elsewhere. National registries are: The Registry for Bone Sarcoma, American College of Surgeons, Registry for Lymphatic Diseases, Registry of Bladder Tumors, and Registry of Eye Tumors at the Army Medical Museum, Washington, D. C.

The suggested registries would add materially to our knowledge of the cancer problem in Kansas.

The organization of a special group for the diagnosis and treatment of cancer should be based on two considerations. The first is the better service such a group can render to cancer patients through combined diagnosis and opinion as to treatment: the second, the opportunity offered for educational work in this field for medical and related groups. Given proper facilities, the successful initiation of a program depends on the active interest of a few members of the hospital staff. This must be a compelling interest that will not stop to count the cost in time and energy necessary to advance the plan. The pathologist, radiologist, surgeon, and internist each must be willing to contribute generously to the undertaking. Just which member of the group becomes the director depends on the local situation. The surgeon doubtless will be chosen in many cases. The pathologist, because of removal from actual clinical treatment, has much to recommend him. No matter who is chosen, selection should be on the basis of active interest, executive talent, and ability to win the cooperation of other members of the special group and hospital staff.

The question of treatment of pay patients always arises when an organized cancer service is discussed. Obviously for the good of the patient, the same type of organization should be available for pay patients as serves the indigent group. Ability to pay should not deprive a patient of the advantages of an organized service. It has been suggested that a physician with a paying cancer patient should refer this patient to the special service for diagnosis and advice regarding treatment, the treatment to be carried out by the referring physician as he may choose. This plan gives both the patient and the physician the advantages of group opinion

on the case. Ways can be found for the care of pay patients in a special cancer service, but the development of a plan rests with the local profession and hospitals.

Provision of adequate diagnostic and treatment facilities for malignant disease is beyond reach of the average general hospital from current resources. Assistance in meeting this need can be expected from two sources only: private philanthropy or public taxation. Private funds usually will be larger in amount, of a more permanent nature, and with fewer political alliances to handicap their administration.

After the superiority of an organized cancer service over existing uncoordinated methods of handling these cases has been established it may then be advisable to seek public support of the work. An extended period of demonstration is desirable, however, before recourse to public funds is considered. Support of cancer work by taxation places the disease in the public health group and distributes the burden among the entire population which, by reason of this participation, may have a greater interest in the subject than if it is left to the generosity of a few community minded persons.

The best methods of meeting the cancer problem have not yet been developed. The medical profession should be given a reasonable time to show what it can do. If it fails, and recourse to state aid is found desirable, approach to such authorities should be through medical channels.

The control of cancer is in the hands of the medical profession and hospitals where it properly belongs. The interested public should confine its efforts to strengthening the resources of these two groups and to lay educational work so that cancer patients will come for examination at the earliest possible moment while there is the greatest opportunity for obtaining relief.

The medical profession should appreciate that cancer is not a one-man disease, but requires the best thought and skill of a special group for its diagnosis and treatment. The profession should also be stimulated by the thought that cancer is one of the few diseases, if not the only

one, in which medical skill alone can bring about a cure. Neglected cancer always kills, but the physician, by his skillful removal of cancer tissue, places his patient out of danger of death from the disease.

Physicians should not temporize with cancer or suspected cancer. Expectant treatment, viz. waiting to see what develops in the next few weeks or months, has no place in accepted cancer therapy. The answer should be obtained when the case is first seen. For practically all forms of malignancy, the physician has a choice of recognized methods of treatment. If facilities are not available locally, the patient should be referred to an institution where the answer can be given. Numerous instances could be cited where delay resulted fatally when there was a strong probability of recovery by proper treatment when medical opinion was first consulted, and also where a bold approach revealed malignancy in a tumor to all appearances benign when first seen. Only by a vigorous attack on the problem by physicians skilled in diagnosis and treatment of the disease can progress be made in reducing its incidence and mortality.

Cancer is the greatest challenge now before the medical world. Its wide distribution and increasing mortality demand the best thought of all scientists and only by intensive and cooperative efforts can the problem be solved.

The Kansas Medical Society can make an important contribution to cancer control by developing a program of postgraduate medical instruction for all physicians of the state. The facilities of Bell Memorial Hospital and of other hospitals should be utilized for this purpose. A similar program should be developed for the laity by offering speakers to women's clubs, church, school, and civic organizations.

For promoting interest in cancer diagnosis and treatment, at least one cancer program annually should be given before each local medical society. Cancer of one site, such as breast, cervix, skin, etc., might be featured for the year's work. At the end of five years, the major forms of malignancy would have been covered in a comprehensive postgraduate course. A cancer symposium and suitable exhibit

would be desirable features of each annual state meeting.

The state society could bring about discussion and appraisal of diagnostic and treatment methods, looking toward greater uniformity of procedure in these important matters. It could encourage closer cooperation between the surgeon, internist, pathologist, radiologist, and general practitioner in handling these cases. It should take the initiative in securing more autopsies and bringing about laboratory examination of all removed tissues in all hospitals of the state not now having provision for such examination. It should encourage the appointment of cancer committees in each local medical society and in all hospitals treating cancer patients. Dentists should be given every opportunity to profit from these activities as they have opportunity to discover many malignant conditions in and around the mouth.

Cancer is given little attention by the State Department of Health in Kansas. The Division of Vital Statistics collects and analyzes the mortality figures and members of the department occasionally discuss the subject in public addresses. It is believed that the Health Department could contribute to the cancer education program by the distribution of information and literature on this subject.

In view of the place now held by cancer as a cause of death in Kansas, the State Department of Health might well consider the organization of a division of cancer control. Such a division could carry on investigations in prevention and control of cancer, the analysis of hospital and autopsy records, and of death certificates, and their correlation for the presentation of accurate statistics on the cancer situation in the state. Such studies and correlations would be of great assistance to the physician, would do much to improve hospital diagnosis and practice, and would supply an abundance of material for public education in prevention and control of this disease.

The Kansas Committee of the American Society for the Control of Cancer could assist the state medical society in the preparation of educational material for postgraduate work and for local society pro-

grams. It can also assist by supplying literature on cancer topics to the laity, by the organization of meetings for their discussion by competent speakers, and similar activities. This committee can render assistance to organized cancer services by directing the public to them, by providing educational matter, by helping to finance needed clerical assistance when the service is in operation, by cooperating in the follow-up of cancer patients, and by similar undertakings.

It would be a practical and logical procedure for the Kansas Medical Society, the medical school, the State Department of Health, and the state committee of the American Society for the Control of Cancer to cooperate in a state-wide educational program. The details of such a program will be discussed later. This plan, if carried into full operation, would provide for Kansas an adequate diagnostic and treatment service for all cancer patients within the state. It would educate physicians in acceptable diagnostic and treatment methods, and would provide ample factual and other information on which a public educational program could be based.

RECOMMENDATIONS

The following recommendations are made for an improved cancer service in Kansas:

1. Special cancer services, to meet the minimum standards of the American College of Surgeons, should be organized in Bell Memorial and St. Margaret's hospitals, Kansas City, and in Wichita. By the addition of some equipment, an improved service could be offered in Hutchinson and Topeka. Diagnostic clinics could be organized in Great Bend, Newton, and Salina; also in Hays by the addition of a capable pathologist. These diagnostic centers should serve as headquarters for local cancer committees and should be supplied with educational material for the medical profession and public. Other communities should be encouraged to offer as complete a service for the diagnosis and treatment of cancer as their facilities permit.

2. A comparable and adequate record system should be used by hospitals treating cancer patients. The record forms of

the American College of Surgeons are recommended for this purpose.

3. An adequate staff of medically trained social workers should be attached to the special cancer services to follow up all cancer patients. These workers should cooperate fully with clinical and record departments of hospitals with which they are connected.

4. A tumor registry should be developed in Bell Memorial Hospital in which would be filed tissues, slides, and concise clinical data on tumors removed in the hospitals of Kansas. This material should be available to physicians and others interested in the study of malignancy. If sufficient interest is shown, a similar registry might be established in Wichita in connection with the recommended cancer service. This registry should cooperate closely with the one at Bell Memorial Hospital.

5. The Committee on Control of Cancer of the Kansas Medical Society should be made a permanent committee with a minority of its members changing annually.

6. The Kansas Medical Society, through its Committee on Control of Cancer, should sponsor a five-year educational program for all physicians in the state in which cancer of a different region would be featured each year. The American Society for the Control of Cancer will cooperate in developing such a program.

7. One meeting each year of each local society should be devoted to cancer and each annual meeting of the state society should offer a cancer symposium and exhibit.

8. The Kansas Medical Society should cooperate with the medical school in preparing postgraduate courses on cancer to be given at Bell Memorial Hospital and elsewhere in the state as opportunity offers.

9. The Kansas Medical Society, in cooperation with the State Department of Health and the State Committee of the American Society for the Control of Cancer, should organize a state-wide lay educational program as soon as the professional and hospital facilities of the state are adequate for all cancer patients applying for attention.

10. In the development of professional and lay educational programs, cooperation of the dental and nursing professions should be obtained.

11. Examinations for medical and dental licensure and for registration of nurses should contain practical questions on malignant disease.

12. The Kansas Medical Society should consider seriously the lack of facilities in many hospitals of the state for the examination of tumor tissue, and ways and means whereby such examinations could be made with the greatest benefit to the patient and physician. Hospitals now permitting removed tissues to be discarded without examination should be discouraged in this practice.

13. The Kansas Medical Society should stimulate efforts to obtain a larger number of autopsies in the hospitals of the state.

14. The Kansas Medical Society should discourage the rental and use of radium by physicians not qualified to use it, and should advise the public of the probable consequences when radium is so used.

15. There should be developed in the State Department of Health a Division of Cancer Control with personnel and budget to carry out studies in the prevention and control of cancer, the analysis of hospital records, of autopsies, of death certificates, and of other information pertinent to this question. The director of this division should be a physician having clinical or other experience with cancer problems. Activities of this division should be educational in character and should not enter into the treatment of cancer in any form.

16. The law providing for the reporting of cancer to the State Department of Health should be enforced without injury to such patients, but to give valuable morbidity statistics for educational purposes.

17. A state cancer committee, functioning under auspices of the American Society for the Control of Cancer, should be formed of representative and influential medical and lay members. This committee should maintain a constructive interest in cancer prevention and control throughout the state. Wherever possible, it should assist in the work of organized cancer services and should cooperate with

all other health and educational forces. Its members should serve as information centers on cancer problems in their communities. Local committees of similar composition should be formed when there is need for support of local cancer work.

18. It is believed that the needs of the cancer problem in Kansas will be met by development of organized cancer services along the lines mentioned. It is realized that cancer patients will continue to be treated in hospitals not equipped for cancer therapy and in physician's offices. The present status of cancer therapy makes it inadvisable for an institution or physician to undertake such work unless there are adequate facilities for the diagnosis, treatment, record keeping, and social service follow-up.

19. It is believed that these recommendations for an improved cancer service in Kansas can be made effective by cooperation of the Kansas Medical Society, representing the clinical and educational phases of medicine in the state, the State Department of Health, and the State Committee for the American Society for the Control of Cancer in a tripartite organization for cancer control. This cooperative group could weld into a strong working organization the cancer control facilities of the state so that cancer patients would receive acceptable and adequate treatment in the earliest possible stage of the disease. This organized effort would offer an unexcelled opportunity for undergraduate and postgraduate education in cancer diagnosis and therapy. Its effective working would make unnecessary the entrance of any other agency into the field of cancer prevention and control in Kansas. The contribution each member of this tripartite organization would make and the problems on which they would cooperate are indicated in the following pages.

20. There is appended to this report a short bibliography of books, journals, and reports on cancer subjects. This reading list is recommended to physicians, medical societies, and hospitals as suitable material from which authentic information on cancer subjects can be obtained.

21. If and when this report is approved by the Kansas Medical Society, its pub-

lication in full in the official journal of the society is recommended.

PROGRAM OF TRIPARTITE ORGANIZATION FOR CANCER PREVENTION AND CONTROL IN KANSAS

A. Kansas Medical Society

1. The Kansas Medical Society, co-operating with the medical school, should develop a program for education of the physicians of Kansas in the most approved methods of diagnosis and treatment of cancer and allied diseases.

2. It should cooperate with hospitals and other organizations to see that adequate facilities are available and competent treatment rendered to cancer patients in these institutions.

3. It should stimulate the provision of adequate laboratory facilities and trained personnel for the examination of all tumor tissues removed in the hospitals of Kansas.

4. It should stimulate the holding of more autopsies in hospitals of Kansas.

5. It should stimulate its members promptly to refer cases which they do not diagnose nor care to treat to institutions and to specialists interested in such cases.

6. It should endeavor to secure better histories and records of treatment of cancer cases and to obtain more accurate causes of death on death certificates.

7. It should encourage its members to read papers on cancer subjects at local and state society meetings.

8. It should supply its members with reliable statistics of the value of early diagnosis and adequate treatment.

B. State Department of Health

1. The State Department of Health of Kansas should make surveys to determine the character and extent of the cancer problem within the state as to the actual number of cases and deaths.

2. It should compile statistics from hospital cancer records by age, sex, organ, type of lesion, and of the time elapsing between the patient's first knowledge of the disease and his seeking medical attention.

3. It should make surveys of the hospital, nursing, and other services for cancer patients in Kansas.

4. In cooperation with the Kansas Medical Society, welfare, and other organizations, it should make studies of the

economic problems of cancer patients in Kansas.

5. In cooperation with the Kansas Medical Society, it should stimulate the provision of proper facilities for the examination of tumor tissue in the hospitals of the state.

6. In cooperation with the Kansas Medical Society, it should provide informative articles on the cancer problem for distribution to the laity.

7. It should estimate periodically amount and quality of cancer service given in the state on the lines laid down in the Appraisal Form of the American Public Health Association.

8. It should cooperate with the Kansas Committee of the American Society for the Control of Cancer in its work of education of the public regarding early signs and symptoms of cancer and the value of early, adequate treatment.

C. Kansas State Cancer Committee

1. This Committee should cooperate with the Kansas Medical Society and the State Department of Health in activities suggested for these two organizations under this tripartite arrangement.

2. It should assist in education of the public in early signs and symptoms of cancer and value of early diagnosis and adequate treatment.

3. It should assist the public to obtain skillful attention in the treatment of this disease.

4. It should teach the public the value of periodic examination as a means of detecting cancer in its early and most hopeful stage.

5. It should educate responsible individuals in Kansas to the value of adequate facilities for the diagnosis and treatment of cancer and should urge the provision of funds when and where needed to supplement existing facilities for the treatment of this disease.

6. It should cooperate with voluntary health and welfare agencies in constructive activities relating to cancer.

7. It should keep fully advised of policies of the American Society for the Control of Cancer, of which it is the local representative, and should avail itself of all facilities the parent society has to offer. It should furnish the Kansas Medical So-

ciety and the State Department of Health with educational material from the parent society and should keep the Society's Field Representative, for that territory, fully advised of its activities.

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Uterine Tumors, Charles C. Norris. 16mo., 251 pages, 1930, \$3.00. Harper and Brothers, New York.

Cancer of the Breast, William Crawford White. 16mo., 221 pages, 1930, \$3.00. Harper & Brothers, New York.

Cancer of the Rectum, E. Ernest Miles. 12mo., 72 pages, 1926, 12s. 6d. Harrison & Sons, London, England.

Bone Sarcoma, Anatole Kolodny. Royal octavo, 214 pages, 1927, \$5.00. Surgical Publishing Company, Chicago.

Tumors of Bone, Geschickter and Copeland. Royal octavo, 214 pages, 1927, \$5.00. American Journal of Cancer, New York.

x-Rays and Radium in the Treatment of Diseases of the Skin, George M. MacKee. Medium octavo, 788 pages, 1927, \$10.00. Lea & Febiger, Philadelphia.

Causation, Prevention, and Treatment of Cancer, James Ewing. Post octavo, 87 pages, 1931, \$1.00. Williams & Williams Company, Baltimore.

The Natural History of Cancer, W. Roger Williams. Medium octavo, 519 pages, 1908, \$3.00. William Wood & Company, New York.

JOURNALS

The American Journal of Cancer. Issued monthly. Annual subscription price \$9.00. Business Office: 654 Madison Avenue, New York.

Bulletin of the American Society for the Control of Cancer. Issued monthly. Annual subscription, \$1.00. 1250 Sixth Avenue, New York, N. Y.

REPORTS

Report of the Royal Commission on the Use of Radium and x-Rays in the Treatment of the Sick, etc. Dr. John W. S. McCullough, Secretary, Chief Inspector of Health, Parliament Buildings, Toronto, Ontario, Canada.

Cancer Survey, St. Louis and St. Louis County, Missouri. Journal, Missouri State Medical Association, June, 1932, pp. 249-275.

Cancer Survey of Wisconsin, 1931. The Wisconsin Medical Journal, September 1932.

Cancer Survey of Iowa, 1932. Iowa Public Health Bulletin, Vol. 47, No. 4, December, 1933.

—R—

THE PHYSICIAN'S LIBRARY

SPINAL ANESTHESIA, Technic and Clinical Application, by George Rudolph Vehrs, M.D., Salem, Oregon. Illustrated. The C. V. Mosby Company, St. Louis. Price \$5.50.

This is one of the most complete volumes yet compiled on the subject of spinal anesthesia. Apparently no single thought on the subject has gone unexplained and done so in the greatest detail.

This is a most valuable book and one which should be read by all interested in spinal anesthesia.—M.B.M.

THE ESSENTIALS OF PHYSICAL DIAGNOSIS: By Robert W. Buck, M.D., Assistant Professor of Preventive Medicine and Instructor in Physical Diagnosis, Tufts College Medical School; Physician to Boston Dispensary. 259 pages with 21 illustrations. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$3.00 net.

The author of this small volume has undertaken to produce a concise manual of the principles and methods of physical examination. This is perhaps the latest of

the many books available for this purpose, but it is unique, in that it is compact without sacrificing interest to brevity; concise without losing clarity in the process of condensation.

The writer's style is most happy. He reasons rather than dogmatizes. He impresses his ideas by clothing them in language which suggests that intimate contact between teacher and student sometimes called "Socratic."

The chapter on "The Body as a Whole" is of particular interest, and is somewhat of an innovation in books of this kind. Under this head the author discusses the general condition of the patient—the psychic state, the physical constitution and general structure of the body, the state of nutrition, the posture and gait or the position in bed, the presence or absence and the character of voluntary or involuntary movements, the appearance of the skin and the presence or absence of fever. All this is of the nature of a survey of the Body as a Whole, made by the trained observer as a prelude to the more detailed examination about to be made.

There is much in this book to commend it to the student of medicine, whether he be young or old, and the author exhibits the qualities of writer and of teacher happily combined.—O.P.D.

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION: Volume XXV (Papers of 1933—Published 1934). Edited by Mrs. Maud H. Mellish-Wilson and Richard M. Hewitt, B.A., M.A., M.D. Octavo of 1230 pages with 210 illustrations. Philadelphia and London. W. B. Saunders Company, 1934. Cloth, \$11.50 net.

This volume from the Mayo Clinic is one of the finest ever put out. It should be appreciated by the general practitioner as well as the surgeon as it contains so much valuable data of interest to both. Among some of the outstanding articles are, Functional Menstrual Irregularities, by Dr. Drips; Elliott's New Treatment of Pelvic Infections thoroughly discussed by Dr. Counsellor; The Diagnostic Significance of Bleeding from the Bowel by Dr. Brown and Treatment of Congestive Heart Failure, by Dr. Frederick A. Willus. Dr. Chas. H. Mayo gives his 45 years experience and study on Thyroid Deficiency.

The surgical field is well covered by leading articles presenting the latest advances in diagnosis and operative technic.—M.B.M.

DISEASES OF THE SKIN, by Oliver S. Ormsby, M.D., Clinical Professor and Chairman of the Department of Dermatology, Rush Medical College of the University of Chicago; Dermatologist to the Presbyterian and St. Anthony's Hospitals, and the Home for Destitute Crippled Children, Chicago, Illinois. Revision of the histopathology by Clark Wylie Finnerud, B.S., M.D., Assistant Clinical Professor of Dermatology, Rush Medical College of the University of Chicago; Assistant Attending Dermatologist to the Presbyterian Hospital, Chicago, Illinois. Fourth Edition, enlarged and thoroughly revised, published 1934. Large Octavo, 1288 pages, illustrated with 619 engravings and three colored plates. Lea and Febiger, Philadelphia. Cloth, \$11.50, net.

Descriptions of 36 new diseases are included in this edition; 20 more have been entirely rewritten and 124 new illustrations have been added. Every disease of the skin now known has been considered. The book is practical both in plan and treatment and its splendid organization makes complete information readily available. Many prescriptions and formulas are included. Printed on high grade paper and large type, which makes easy reading. It is a valuable book for the library of every physician.—E.G.B.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month). Volume 14, Number 3, (Mayo Clinic Number—June, 1934). Octavo of 221 pages with 70 illustrations. Per Clinic Year, February, 1934, to December, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

This surgical volume from the Mayo Clinic is fully up to the high standard of all work from this clinic.

Many interesting cases with thorough discussions and helpful suggestions are presented by leading men of their staff.—M.B.M.

PRACTICAL MEDICINE SERIES, THE YEAR BOOK ON GENERAL THERAPEUTICS: Edited by Bernard Fantus, M.S., M.D., Professor of Therapeutics, University of Illinois College of Medicine; Member, Revision Committee of the U. S. Pharmacopoeia and of the National Formulary Revision Committee; Director of Therapeutics, Cook County Hospital. The Year Book Publishers, Inc., Chicago. Price \$2.25.

For the busy doctor of scanty leisure who wishes to review the year's advance in therapeutics and therapeutic methods, this book is well adapted. It is a notable fact that books of this caliber, brief, concise and yet comprehensive in scope, are becoming more popular than the voluminous and cyclopedic works which are expensive and become obsolete before they can be read. The contents of this handbook are largely derived from current periodical literature, and references to such

sources are given under every topic, so that the reader may easily obtain the original article, at small expense, if he so desires, after reading the abstract. These abstracts are very ably written, and in most cases leave little to be desired by the physician who wishes to make immediate application of the information thus obtained.—O.P.D.

POSTURES AND PRACTICES during Labor Among Primitive People. Adaptions to Modern Obstetrics, with chapters on taboos and superstitions and postpartum gymnastics: by Julius Jarcho, M.D., F.A.C.S. 160 Pages with 130 illustrations. Published by Paul Hoeber, Inc., New York. Price \$3.50.

This is a book of around 150 pages that is most interesting to any one interested in the field of obstetrics. It gives the source of many of the customs that we are very frequently affronted with during the process of some of the more complicated types of labor. The author also brings out the tribal source of some of the modern positions used to facilitate labor, such as the exaggerated lithotomy and the Walcher positions, stating that they have apparently arisen in various tribes because it seemed to facilitate the progress of labor and not because of the primitive people having any knowledge of the shifting of the measurements of the pelvis.

The author stresses the fact that although there has been a great deal of stress put upon all types of massage and many procedures in the antenatal period to promote the return of the original figure after delivery, that very little stress has been laid to the gymnastics that may be profitably used in the postnatal period. His chapter on postpartum gymnastics is excellent and warrants careful consideration.—L.R.P.

SURGERY OF A GENERAL PRACTICE, by Arthur E. Hertzler, M.D., chief surgeon, Halstead Hospital; professor of surgery, University of Kansas, and Victor E. Chesky, M.D., chief resident surgeon, Halstead Hospital. 472 Illustrations. The C. V. Mosby Company, St. Louis. Price \$10.00.

This book is written in Dr. Hertzler's inimitable style and is an extremely valuable guide to the so-called minor surgery as seen in general practice. The care of infections, the treatment of the common surgical emergencies as handled in the Halstead Clinic is given in good detail, and the book is easily read and would be valuable for the general practitioner as a handy reference.—C.E.J.

List of Physicians Licensed by the Kansas State Board of Medical Registration and Examination, June 19-20, 1934.

BY EXAMINATION

NAME	SCHOOL	DATE OF GRADUATION	ADDRESS
Alderson, Clair M.....	University of Kansas	1934.....	Erie, Kan.
Anderson, Wallace E.....	University of Minnesota	1954.....	Kansas City, Mo.
Anderson, Winstan L.....	University of Kansas	1934.....	Kansas City, Mo.
Asher, Henry H.....	University of Kansas	1934.....	Akron, Ohio
Athy, Gregg B.....	University of Kansas	1934.....	Kansas City, Kan.
Bach, Leo F.....	Creighton University	1933.....	Wichita, Kan.
Bacon, Harold L.....	Northwestern University	1934.....	Wichita, Kan.
Barker, John F.....	University of Kansas	1934.....	Sabetha, Kan.
Beauchamp, Preston E.....	University of Kansas	1934.....	Kansas City, Kan.
Buhler, Victor B.....	University of Kansas	1934.....	St. Paul, Minn.
Case, Paul H.....	Geo. Washington University	1934.....	Kansas City, Kan.
Cohenour, Howard L.....	University of Kansas	1934.....	Kansas City, Mo.
Conklin, Quinton D.....	University of Kansas	1934.....	Abilene, Kan.
Cox, Kenneth E.....	University of Kansas	1934.....	Kansas City, Mo.
Delp, Mahlon H.....	University of Kansas	1934.....	Kansas City, Kan.
Duckett, Thomas G.....	University of Kansas	1934.....	Kansas City, Kan.
Eilers, Harrison.....	University of Kansas	1934.....	San Diego, Calif.
Eubank, Miriam D.....	University of Kansas	1934.....	New York, N. Y.
Evans, Joseph G.....	University of Kansas	1934.....	St. Louis, Mo.
Fernie, Jr., Robert W.....	University of Colorado	1934.....	Birmingham, Ala.
Francisco, Clarence L.....	University of Kansas	1934.....	Kansas City, Kan.
Fredeen, Robert C.....	University of Kansas	1934.....	Ottawa, Kan.
Gacusana, Jose M.....	Creighton University	1932.....	Wichita, Kan.
Geeslin, Lawrence E.....	University of Kansas	1934.....	Kansas City, Kan.
Gertson, Emery T.....	University of Kansas	1934.....	Wichita, Kan.
Gibbs, George M.....	Coll. Med. Evangelists	1934.....	Tulsa, Okla.
Giffin, Glenn O.....	University of Kansas	1934.....	Kansas City, Mo.
Gradinger, Billens.....	University of Kansas	1934.....	Pittsburg, Kan.
Gsell, George F.....	Rush Medical College	1933.....	Wichita, Kan.
Hamilton, Howard E.....	University of Kansas	1934.....	Kansas City, Kan.
Harvey, William T.....	P & S Med. Coll. of Iowa	1897.....	Council Grove, Kan.
Haukenberry, Everett.....	University of Kansas	1934.....	Manhattan, Kan.
Hayne, Jemmima H.....	University of Kansas	1934.....	Paipang-Ho Pai, China
Hesser, Herbert H.....	University of Kansas	1934.....	Kansas City, Kan.
Hiebert, Peter E.....	University of Kansas	1934.....	Kansas City, Kan.
Hill, Edwin R.....	University of Kansas	1934.....	Pleasanton, Kan.
Hill, James E.....	University of Kansas	1934.....	Wichita, Kan.
Hope, James L.....	University of Kansas	1934.....	Wichita, Kan.
Horejsi, Alfred J.....	University of Kansas	1934.....	Holyrood, Kan.
Hughey, Charles F.....	University of Kansas	1934.....	Paola, Kan.
Huntley, Leslie L.....	University of Nebraska	1933.....	Omaha, Nebr.
Isbell, Jr., Charles H.....	University of Kansas	1934.....	Kansas City, Kan.
Kernan, Phillip D.....	University of Wisconsin	1933.....	Madison, Wis.
Klein, Edward H.....	University of Kansas	1934.....	Kansas City, Mo.
Lander, Ernest W.....	Northwestern University	1934.....	Wichita, Kan.
Larson, Evert A.....	University of Kansas	1934.....	Trenton, N. J.
Longenecker, Lida.....	University of Kansas	1934.....	Kansas City, Kan.
Looney, Gordon A.....	Howard University	1932.....	Springfield, Mo.
Lynn, William F.....	Harvard University	1933.....	Lindsborg, Kan.
MacLeod, Sherbourne.....	University of Oklahoma	1933.....	Wichita, Kan.
Marshall, Bromell M.....	Washington University	1934.....	Topeka, Kan.
Mellott, Lennert B.....	University of Kansas	1934.....	St. Louis, Mo.
Moore, Jr., Ernest M.....	University of Kansas	1934.....	Kansas City, Mo.
Moser, Ernest C.....	University of Kansas	1934.....	Powhattan, Kan.
Muller, Samuel B.....	University of Kansas	1934.....	Kansas City, Mo.
Munsell, John D.....	University of Nebraska	1934.....	Natoma, Kan.
Nay, Newell.....	University of Kansas	1934.....	Santa Barbara, Calif.
Oakes, Charles G.....	University of Kansas	1934.....	Kansas City, Mo.
Obert, Francis C.....	University of Kansas	1934.....	Kansas City, Kan.
Olson, Alton C.....	University of Minnesota	1934.....	Kansas City, Mo.
Olson, Elmer H.....	Coll. Med. Evangelists	1933.....	Oberlin, Kan.
O'Neil, Gerald C.....	University of Kansas	1933.....	Axtell, Kan.
Outt, Charles N.....	Creighton University	1934.....	Kansas City, Kan.
Parker, Elliott F.....	University of Kansas	1934.....	Highland, Kan.
Pearson, Glenn A.....	University of Kansas	1934.....	Kansas City, Mo.
Pfuetze, Karl H.....	University of Kansas	1934.....	Manhattan, Kan.
Pokorny, Charles.....	St. Louis University	1934.....	LaCrosse, Kan.
Reeves, Eugene A.....	Baylor University	1934.....	Kansas City, Kan.
Rogers, Frederick E.....	University of Kansas	1934.....	Kansas City, Kan.
Schmidt, Herbert R.....	University of Kansas	1934.....	Canton, Kan.

List of Physicians Licensed by the Kansas State Board of Medical Registration and Examination, June 19-20, 1934.

BY EXAMINATION

NAME	SCHOOL	DATE OF GRADUATION	ADDRESS
Smith, Robert P.....	University of Kansas	1934.....	Kansas City, Kan.
Soderberg, Nathaniel	University of Kansas	1934.....	Kansas City, Mo.
Sohlberg, Jr., Robert	Northwestern University	1934.....	McPherson, Kan.
Solomon, William W.....	Howard University	1933.....	Omaha, Nebr.
Speer, Frederick A.....	University of Kansas	1934.....	San Antonio, Texas
Spencer, Harold F.....	University of Kansas	1934.....	Kansas City, Kan.
Sprong, Aaron A.....	University of Kansas	1934.....	Kansas City, Mo.
True, Otis H.....	University of Kansas	1934.....	Kansas City, Mo.
Vail, Anthony D.....	University of Kansas	1934.....	St. Louis, Mo.
Walker, Nellie D.....	University of Kansas	1934.....	Kansas City, Mo.
Ward, Charles E.....	Starling Med. College	1892.....	Little River, Kan.
Watson, Ethel	University of Kansas	1934.....	Independence, Mo.
Williams, Byron E.....	University of Kansas	1934.....	Lawrence, Kan.
Woodbury, Robert A.....	University of Chicago	1934.....	Kansas City, Mo.
Woodhouse, Charles L.....	University of Kansas	1934.....	Kansas City, Mo.
Young, Chester L.....	University of Kansas	1934.....	Kansas City, Kan.
Zupanec, Ralph	University of Kansas	1934.....	Kansas City, Kan.

BY RECIPROCITY

Brown, Lionel B.....	University of Nebraska	1922.....	Stratton, Nebr.
Davis, Henry L.....	Tufts Medical College	1914.....	Huntington Park, Calif.
Dewey, Carroll W.....	University of Nebraska	1932.....	Danbury, Nebr.
Eggleston, Donald E.....	Washington Med. College	1930.....	Kingman, Kan.
Fricke, Fred J.....	University of Nebraska	1931.....	Wichita, Kan.
Helm, Fred P.....	University of Louisville	1923.....	Topeka, Kan.
Kiser, Willard J.....	Vanderbilt University	1930.....	Sedgwick, Kan.
Knight, Robert P.....	Northwestern University	1933.....	Topeka, Kan.
Scott, Vincent L.....	West. Res. Univ. Med. Coll.	1929.....	Liverpool, Ohio
Spelman, Arch E.....	University of Illinois	1929.....	Halstead, Kan.
Stafford, George E.....	University of Kansas	1932.....	Salina, Kan.
Stewart, John N.....	University of Nebraska	1932.....	Stratton, Nebr.

BIRTHS

Hiawatha: Dr. and Mrs. William Steinhauer, July 17, 1934; a daughter, Mary Ann.

Independence: Dr. and Mrs. Rodney G. Carter, June 15, 1934; a son, Spencer Douglas.

Iola: Dr. and Mrs. Frank Lenski, July 26, 1934; a son, John Joseph.

Newton: Dr. and Mrs. Herbert R. Schmidt, July 23, 1934; a daughter, Madalyn Elizabeth.

Topeka: Dr. and Mrs. William E. Michener, July 13, 1934; a daughter, Mary Jean.

Wichita: Dr. and Mrs. Bruce P. Meeker, July 11, 1934; a daughter, Wanda Ann.

DEATH NOTICES

HILL, MATHEW MAY, Winfield, aged 63, died July 6, 1934, of diabetes mellitus. He graduated from Rush Medical College, Chicago, in 1901. He was not a member of the Society.

McCLELLAN, GEORGE BRINTON, Weir City, aged 70, died July 22, 1934, of arteriosclerotic heart disease. He graduated from Northwestern Medical College, St. Joseph, in 1894. He was a member of the Society.

MOORHEAD, JOHN LOUIS, Neodesha, aged 64, died July 13, 1934, of endocarditis. He graduated from Kansas Medical College, Topeka, in 1896. He was a member of the Society.

WILKINSON, HUGH, Kansas City, aged 57, died August 14, 1934, of coronary occlusion. He graduated from Rush Medical College, Chicago, in 1901. He was a member of the Society.

PERSONALS—NEWS ITEMS

Kansas City: Dr. H. W. Kassel and Miss Marie Lasley, also of Kansas City, were married on June 9.

Kansas City: Dr. Lewis G. Allen was made a Fellow of the American College of Radiology on June 13 in Cleveland at the meeting of the American Medical Association.

Larned: Dr. C. H. Ewing attended the meeting of the Board for Registration and Examination of Nurses held in Topeka August 23.

Morganville: Dr. C. C. Stillman attended the meeting of American Association of Railway Surgeons, at Chicago on August 21-23. He presented a paper on the subject: "A Country Doctor Makes a Survey."

Topeka: Dr. and Mrs. W. F. Bowen and daughter returned August 28 from a month's vacation spent on Bay Lake, Minnesota.

Topeka: Dr. Karl A. Menninger of Topeka who was elected President of the Chicago Psychoanalytic Society in July has gone to Lucerne, Switzerland to attend the International Congress on Psychonalysis. He will read a paper on "Forms of Focal Self-Destruction."

Topeka: Dr. W. H. Nadler, Assistant Professor of Medicine, Northwestern University Medical School, Chicago, will be guest speaker at the meeting of the Shawnee County Medical Society on October 1. The meeting will be held at the Hotel Jayhawk, and the subject for discussion will be "The Diagnosis and Treatment of Diabetes Mellitus."

The Kansas City Southwest Clinical Society Annual Fall Conference

The Kansas City Southwest Clinical Society announces the dates of the Twelfth Annual Fall Clinical Conference as October 1-4, inclusive, 1934. All scientific sessions will be held in the President Hotel, Kansas City, Missouri, beginning at 8:30 in the morning and continuing through the evening. Fourteen guest speakers will appear on the program.

Two hours will be allotted each morning to Sectional Lectures on pertinent medical subjects to be presented by members of the society. Four of these lectures will be in session concurrently, so arranged that the subjects will not conflict.

The public meeting on the evening of October 1, will bring as speakers, Rev. Alphonse Schwitalla, Dr. Morris Fishbein and Dr. George Pfahler, each of whom will bring a message of interest and value to the layman as well as the physician.

The local medical societies will cooperate with the Clinical Society in presenting the October 2 evening scientific session with addresses by Doctors Fred Rankin and Samuel Levine.

Each day, two of the guest speakers will give short non-medical talks before the Round Table Luncheons which promise to afford a few minutes relaxation from scientific thoughts.

An evening's entertainment has been arranged for the visiting physicians and their families at the William Rockhill Nelson Gallery of Art. The President's Dinner and the Alumni Dinners will bring the conference to a close on the evening of October 4.

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TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of July 3 the following have been accepted:

Carbide and Carbon Chemicals Corporation. Triethanolamine-Carbide and Carbon Chemicals Corporation.

Lakeside Laboratories, Inc. Ampoules Dextrose (d-Glucose) 50 Gm., 100 cc.

Eli Lilly & Co. Ampoules Glucose (Dextrose, U.S.P.) Lilly, Unbuffered, 25 Gm., 50 cc. Ampoules Glucose (Dextrose, U.S.P.) Lilly, Buffered, 25 Gm., 50 cc. Ampoules Glucose (Dextrose, U.S.P.) Lilly, Unbuffered, 50 Gm., 100 cc.

Sharp & Dohme, Inc. Ivyol-Poison Ivy Extract-Mulford, one syringe package.

United States Standard Products Co. Diphtheria Toxoid, Alum Precipitated (Refined). Erysipelas Streptococcus Antitoxin (Refined and Concentrated). Dextrose Solution, 25 Gm., 50 cc. Dextrose Solution, 50 Gm., 100 cc.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Diodrast—A mixture of a loose combination (in solution) of diethanolamine, and 3,5-diiodo-4-pyridine-N-acetic acid, in equimolecular quantities. Diodrast contains approximately 49.8 per cent of iodine. It is proposed as a contrast agent for intravenous urography. The use of the drug is contraindicated in patients with severe liver disorders, nephritis, tuberculosis or hyperthyroidism, and great care must be exercised in cases of uremia. Caution should be exercised in cases in which a reduction in blood pressure would be dangerous or otherwise undesirable. Diodrast is supplied in the form of diodrast sterile solution (35 per cent, weight/volume), 10 cc. and 20 cc. size ampules. Winthrop Chemical Co., Inc., New York.

Ampoules Thio-Bismol, 2 Gm.—Each ampoule contains 2 Gm. (30 grains) of thio-bismol (New and Non-official Remedies, 1934, p. 123), to be dissolved in 20

cc. of sterile distilled water before administration. Parke, Davis & Co., Detroit.

Urotropin—A brand of methenamine—U.S.P. (New and Nonofficial Remedies, 1934, p. 212). It is supplied in the form of tablets 5 grains (0.3 Gm.) and 7½ grains (0.5 Gm.). Schering & Glatz, Inc., New York.

Mixed Ragweed Pollen Extract Decimal Dilution Set—A mixture of equal parts of short and giant ragweed pollen extract, marketed in packages of five vials containing, respectively, 5 cc. of a 1:100,000 dilution, 5 cc. of a 1:10,000 dilution, 5 cc. of a 1:1000 dilution, 5 cc. of a 1:100 dilution, and 0.5 cc. of a 3 per cent dilution. Abbott Laboratories, North Chicago, Ill. (Jour. A.M.A., July 14, 1934, p. 109).

Carbarsone—p-Carbamido-phenylarsonic acid containing from 28.1 to 28.8 per cent of arsenic (As).—Carbarsone is proposed for the treatment of intestinal

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Sputum (for T. B.)	2.00
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amebiasis. It is administered usually by mouth; in acute amebic dysentery or in resistant cases, retention enemas may be employed. While carbarsone is said to be less toxic than acetarsone and serious untoward effects appear to be uncommon, cutaneous disturbances and other reactions common to arsenic compounds have been observed. While visual disturbances appear to be quite rare, the possibility of their occurrence should be kept in mind. Excretion of the arsenic is relatively slow; suitable rest periods must therefore be interposed in the treatment to prevent cumulative effects. In view of the frequency of persistent infection in the absence of marked symptoms, adequate therapy includes re-examinations and repetitions of courses of treatment. The usual oral dosage for adults is 0.25 Gm. twice a day for ten days. As retention enemas, for adults, 2 Gm. dissolved in 200 cc. of warm 2 per cent sodium bicarbonate solution may be administered following a cleansing alkaline enema every other night for a maximum of five doses, if necessary. Because of the large dosage employed oral administration should be interrupted during this interval. Carbarsone is supplied in vials containing 2 Gm. and in pulvules (capsules) containing 0.25 Gm. The name is trademarked but the firm disclaims proprietary rights. Eli Lilly & Company, Indianapolis. (Jour. A.M.A., July 28, 1934, p. 259).

Carbarsone—Along with its announcement of the acceptance of carbarsone for inclusion in New and Nonofficial Remedies, the Council on Pharmacy and Chemistry issues a report reviewing much of the clinical work with Carbarsone. The Council's report concludes: It appears that carbarsone is a valuable addition to the anti-amebic armamentarium. It must be considered, however, that not a few patients are resistant to this agent as well as to other amebicidal drugs, and that while toxic reactions appear to be uncommon, a few serious accidents have occurred after administration of the usual therapeutic doses of carbarsone. The individual susceptibility to arsenic compounds of each patient must be evaluated and evidences of toxic manifestations must be watched for carefully, both during the period of therapy and, in view of the slow excretion of the administered arsenic, for a reasonable time afterward. (Jour. A.M.A., July 28, 1934, p. 258).

CLASSIFIED ADVERTISEMENTS

FOR SALE: A Victor x-ray, ten-inch capacity, fluoroscopic table, vertical fluoroscope, stereoscope, tubes and other equipment. Address Dr. C. W. Lawrence, Emporia, Kansas.

FOR SALE: Fisher F. O. Diathermy \$250.00, Type V \$175.00, Combination Self Contained Hanovia Alpine and Kromayer Lamps \$250.00. Morse Wave Generator Type A 25 \$75.00, subject to prior sale. Address A-568 Journal.

FOR SALE: Hanovia Alpine Lamp. Combination Transformer for 110 volt A. C. Current, new type burner. Excellent condition. \$150.00 cash. Address A-567 care Journal.

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THE JOURNAL

of the

Kansas Medical Society

Vol. XXXV

TOPEKA, KANSAS, OCTOBER, 1934

No. 10

ORIGINAL ARTICLES

FUNCTIONS OF THE ANTERIOR HYPOPHYSIS*

CYRIL M. MACBRYDE, M.D.

St. Louis, Missouri

A short twenty years ago our knowledge of the functions of the pituitary body extended little beyond that of Vesalius, who in 1543 described and named it, believing it to be the source of "pituita", the nasal mucous discharge. Theophile de Bordeu, father of the modern endocrine theory, expressed the conjecture in 1776 that the pituitary, as well as other glands and organs, produces and secretes into the blood a specific substance which is of physiological importance to the organism. How very important its internal secretions are is attested to by the many dramatic observations of recent years.

Important milestones preceding the present era in pituitary study were the description of its embryology and double origin by Rathke in 1838; the report of obesity, somnolence and visual disturbance occurring in association with pituitary tumor by Bernhard Mohr in 1840; the classic description of acromegaly and its connection with pituitary disease by Pierre Marie in 1886, and the demonstration of the blood pressure raising properties of an extract of the gland by Oliver and Schäfer in 1895. Howell's later studies reported in 1898 showed clearly that the latter effect is obtained only with posterior lobe extracts. Since that time a distinction has been drawn between the functional attributes of the anterior and posterior lobes.

The observation by Fröhlich (1901) of the connection between obesity, sexual infantilism and pituitary tumor can probably be looked upon as the original basis for conjectures concerning the relation of the hypophysis to general metabolism and sexual development. Lorain (1871) had previously described a patient with marked general undergrowth and sexual infantilism, but it was not until Ettore Levi's description of a similar case in 1908 that infantilism was definitely associated with pituitary disease. His patient, a girl of twenty, was very short, exhibited no secondary sex characters, the primary sex characters were aplastic, and the sella turcica was considerably enlarged.

THE GROWTH HORMONE

The modern period, which has been exceedingly rich in experimental and clinical studies, may be thought of as beginning with the demonstration of the growth hormone of the anterior lobe by Evans and Long in 1921.¹ Experimental gigantism was produced in immature rats by the intraperitoneal injection of aqueous anterior pituitary extracts. Severe general metabolic disturbances following hypophysectomy had been observed by Crowe, Cushing and Homans,² whose dogs, following the operation, failed to grow, and developed atrophy of the sexual organs, increased carbohydrate tolerance, adiposity, loss of hair, edema, and dry, coarse skin. Abundant confirmation by many workers established that if the anterior lobe of immature animals is completely removed, growth ceases promptly, while normal growth can be reestablished by anterior lobe extracts.

Smith and Smith³ in a very ingenious experiment investigated the question of which cells of the anterior hypophysis produced the growth hormone. Sections of the gland reveal columns of polygonal cells separated by narrow vascular sinuses.

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The staining characteristics and nature of the granules serve to differentiate three types of cells, eosinophile, basophile, and chromophobe. The latter type stains poorly and has very indistinct granulation, while the eosinophiles and basophiles have large granules. The Smiths were able to partially separate the basophile central zone from the eosinophile peripheral zone of the ox pituitary. Extracts from the eosinophile portion were more active in producing growth changes.

The bizarre changes characteristic of acromegaly were produced in an English bulldog by Putnam, Benedict and Teel⁴ by injections of the growth principle. Thus there had been reproduced in the laboratory all of the growth abnormalities previously ascribed to pituitary disease in man. Bailey and Davidoff⁵ demonstrated eosinophilic adenomata in 33 of 35 operative cases of acromegaly. Statural development therefore seems to depend upon the specific growth principle elaborated by the eosinophiles. Active growth extracts are now available and encouraging reports have appeared of their use in human beings. Because of the great difficulty of properly controlling clinical trials, caution is imperative in interpreting results. Nevertheless, progress in this direction is distinctly encouraging.

THE SEX HORMONE

The relation of the hypophysis to sexual development and function was suggested by the early observations of Fröhlich and Levi. Cushing and his co-workers had produced the experimental counterpart of the Fröhlich syndrome by partial hypophysectomy. Other investigators found that uniformly striking changes in sex characters followed removal of the hypophysis, with failure of normal development in the immature, or regression in the adult, both male and female. The testes, prostate and seminal vesicles shrink in the male, while uterus, ovaries and tubes in the female undergo marked regression. Evans and long had observed interruption of estrus in their giant rats, with enlargement of the ovaries accompanied by excessive luteinization of follicles.

It thus seemed probable that the anterior lobe secreted a second hormone influencing sex. Erdheim and Stumme⁶ in

1909 had described the marked hypertrophy of the anterior pituitary occurring in association with pregnancy. Beginning in 1926 Smith,⁷ and Smith and Engle⁸ in this country, and Zondek and Aschheim⁹ in Germany demonstrated that pituitary transplants or injections causes marked premature sexual development in immature animals. Zondek believes that two separate gonadotropic factors originate in the anterior lobe, Prolan A causing follicle development in the ovary and Prolan B causing luteinization. Recent work has thrown much doubt upon this hypothesis since it seems that the continued administration of any follicle-stimulating factor also ultimately results in luteinization.

Aschheim and Zondek¹⁰ in 1928 demonstrated that an anterior-pituitary-like effect could be obtained from the urine of pregnancy. This principle is believed by them to be secreted by the anterior pituitary. Other workers have brought forward considerable evidence indicating that urinary prolan and the glandular extracts differ considerably and that prolan is probably formed in the placenta.

The most useful result of this discovery was the establishment of an accurate test for pregnancy. There has not been as yet sufficient trial of the gonadotropic extract of the pituitary to judge its usefulness. However, considerable investigation of the anterior-pituitary-like principle of blood and urine has been undertaken. Assay of the blood and urine for this substance has proved of value in the diagnosis of functional sexual disorders in women.¹¹ Its administration has been reported of value in ovarian hypofunctional states¹² and in controlling menorrhagia and metrorrhagia.¹³

It seems probable that the basophiles elaborate the sex principle, since Smith³ found that the basophilic portion of the gland produced sex stimulation while the eosinophilic portion did not. Van Wageningen¹⁴ demonstrated that the pregnancy cells of Erdheim and Stumme were basophilic. Zondek¹⁵ produced ovarian changes with posterior lobe extracts and concluded that the basophiles were responsible for this effect since only basophiles are present in the posterior lobe.

THE LACTOGENIC HORMONE

Early observations had indicated that the pituitary influenced the secretory activity of the mammary glands. In some patients with acromegaly spontaneous lactation had been observed, and in one instance an acromegalic man exhibited this phenomenon. The acromegalic dog of Putnam, Benedict and Teel developed enlarged secreting mammary glands. Injections of pituitary extracts into immature animals had been followed by mammary enlargement as well as accentuation of other sex characters. However, Stricker and Greuter,¹⁶ and Corner¹⁷ developed evidence that the lactogenic hormone was probably a principle distinct from the growth and sex hormones, and in 1933 Riddle¹⁸ and his co-workers reported the isolation of a new anterior pituitary principle called "prolactin", causing secretion of the crop glands in pigeons and doves, and lactation in rabbits, guinea pigs and monkeys. It appears that the actual growth of the mammary gland is under the control of the ovarian hormones, estrin and progesterin, while prolactin causes the secretory activity.

Recently¹⁹ clinical use of prolactin has been successful in stimulating inadequately lactating women postpartum to produce an abundant milk secretion.

THE ANTERIOR PITUITARY AND CARBOHYDRATE METABOLISM

The increased carbohydrate tolerance exhibited by hypophysectomized animals has been mentioned. Cushing and Davido²⁰ found glycosuria in one-fourth of a series of 100 persons with acromegaly. In 11 of 44 collected cases which came to autopsy, death occurred in diabetic coma.

Patients with hypophyseal cachexia show marked insulin hypersensitivity, while acromegalic diabetics are usually insulin-resistant. Houssay²¹ and his co-workers in Buenos Aires demonstrated that hypophysectomy greatly relieves the diabetes occurring after pancreatectomy.

Evidently the anterior pituitary is concerned with carbohydrate metabolism, an excess secretion raising the blood sugar. Whether or not there exists a diabetogenic hormone separate from the growth factor is at present doubtful. Evans²² found that

true diabetes could be provoked in normal dogs by the administration of the hypophyseal growth hormone. Barnes²³ recently found that no glycosuria occurred in an hypophysectomized dog after removal of the pancreas.

THE ANTERIOR PITUITARY AND THE SUPRARENAL GLANDS

In animals deprived of the anterior pituitary marked atrophy of the suprarenal glands occurs. Similarly striking shrinkage of the suprarenals is a feature of Simmond's disease or hypophyseal cachexia, in which there appears to be failure of all the anterior pituitary functions. In acromegaly hyperplasia of the adrenals occurs, while adrenal tumors secondary to basophilic tumors of the pituitary are a frequent feature of the bizarre syndrome of pituitary basophilism described by Cushing.²⁴ What relation the pituitary and adrenal tumors bear to the symptoms of obesity, hypertension, sexual dystrophy, and spinal decalcification is not at all clear.

Extracts of the pituitary with a specific stimulating effect upon the adrenals have been prepared²⁵ and it is to be hoped that we are on the way to developing a new type of therapy for Addison's disease. Possibly stimulative therapy with pituitary extracts will be used in the future instead of the replacement therapy with adrenal cortex now employed.

THE HYPOTHALAMUS, ADIPOSITY AND THE PITUITARY

Early clinical observations suggested the relation of adiposity to pituitary disease. When it was found that injury to the hypophysis or its removal was frequently followed by the development of adiposity in animals, it was concluded that the pituitary exerted a hormonal control upon fat metabolism. This idea was challenged by Camus and Roussy²⁶ when they demonstrated that such adiposities could be produced by hypothalamic injury, especially in the region of the tuber cinereum. Bailey and Bremer²⁷ and others soon confirmed this observation, making it probable that previous adiposities produced by hypophysectomy had resulted from injury to the adjacent brain. More careful

operations have shown that removal of the hypophysis alone does not cause the development of obesity. Numerous other studies have demonstrated that a neurohypophyseal mechanism relating the anterior and posterior lobes with associated areas in the hypothalamic region is concerned with fat metabolism, water balance, carbohydrate metabolism, thermo-regulation and sleep.

Tumors of the pituitary or neighboring regions, whether they be the non-functional intrasellar chromophobe adenomata, eosinophile adenomata, craniopharyngomata, or chiasmal gliomata, produce varying deprivation symptoms by compressing the anterior lobe cellular elements. Thus sexual disturbances or growth failure may occur. Nearby structures such as the infundibulum, tuber cinereum, optic chiasm and hypothalamus may be involved. There may be adiposity, somnolence, polyuria and loss of vision as a result of injury to these structures connected so closely anatomically and functionally with the hypophysis.

THE THYROTROPIC HORMONE

The marked general metabolic changes produced by pituitary disease attracted the attention of many workers. Benedict and Homans²⁸ in 1912 showed that hypophysectomy in the dog lowers the metabolic rate and opened a new avenue of approach to the study of the gland.

In 1926 Foster and Smith reported definite and conclusive evidence of the pituitary-thyroid relationship. Rats suffered an average fall of 35 per cent in the basal metabolic rate after removal of the anterior lobe. This change was not noted if the posterior lobe alone were removed. If the whole gland were removed, anterior lobe transplants could restore the rate to normal, but posterior lobe transplants were ineffective. Since thyroid administration raised the metabolic rate, it seemed evident that the pituitary acted through the thyroid gland in regulating the total gaseous exchange.

Hypertrophy of the thyroid gland with histologic changes characteristic of hyperthyroidism resulted in guinea pigs injected with anterior pituitary extracts by Loeb and Bassett.³⁰ Other investigators soon established the fact that hyperthy-

roid changes could be produced in many animals with such extracts. Schockaert³¹ found that he could produce exophthalmus in young male ducks as an accompaniment of other thyrotoxic symptoms.

These laboratory observations seem well correlated with previous clinical impressions since acromegaly and other pituitary tumors are frequently accompanied by thyrotoxic symptoms, and clinical syndromes of hypopituitarism are characterized by lowered metabolic rates.

Clinical trials with thyrotropic substance so far have been disappointing. It is to be hoped that we shall soon have available extracts which may be employed as stimulative therapy in hypothyroid states.

This tiny gland, deep within the cranium, protected doubly by bony walls, has revealed itself to be of tremendous physiologic importance. Closely related to the brain centers as it is, and no doubt itself controlled by the central nervous system, it governs growth and sex development, lactation, adrenal and thyroid function and carbohydrate metabolism. So far, and properly so, observations have come chiefly from the laboratory. The immediate future should see our knowledge of the pituitary assuming great clinical importance.

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James S. McLester, Birmingham, Ala. (J.A.M.A.), points out that until a decade ago nutrition was the stepchild of medicine. This lack of interest was due in no small measure to the semicharlatanism and wild faddism which have always flourished in this field and which have led many conservative physicians to give it a wide berth. Now a reversal of feeling has taken place. The great discoveries of recent years have excited the interest of every one, laymen and physicians alike, and today medical men are keenly alive to the vastly important part which nutrition plays in the prevention and treatment of disease; a radical change in the conception of the nutritive needs of the sick person has come about. This change is explained by the order in which, in the evolution of modern medicine, the basic sciences have developed, cellular pathology coming early and present-day physiology late. Formerly, in planning the patient's food, physicians thought solely in terms of the local pathologic condition, of the harm they might do some impaired organ; now they think chiefly in terms of general physiology, of the good they can do the patient as a whole. This transition is signally characteristic of modern thought in nutrition. These changing concepts of nutrition are not the result of vacillation or of an uncertain drift of opinion. They express the broader understanding of man's nutritive needs that has come with the discoveries of recent years and represent the well considered application of knowledge gained, little by little, from painstaking research and careful clinical observation. This is the way of progress.

SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS*

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Of the many specifics and therapeutics that have been tried in the treatment of pulmonary tuberculosis, only one has stood the test of time, that being rest. So well is this factor recognized that many mechanical devices and surgical procedures have been developed to aid in putting an affected lung at partial or complete rest and among these we have:

1. Postural rest advocated by Webb and Sewall.

2. Phrenic nerve section or avulsion causing partial or complete paralysis of the diaphragm and partial lower lobe collapse.

3. Local replacement by some foreign body of the affected part, as paraffin, muscle, fat and other substances as advocated by Tuffer.

4. Lung collapse by the intra-pleural introduction of gas or air, first advocated by Forlanini in 1882 and later brought into general use by Murphy in 1898.

5. Rib resection with narrowing of the chest was advocated by Friedrich, Wilms, Sauerbruch and others, but for this discovery credit should go to Brauer's combination of clinical insight and surgical imagination. In 1906 he suggested to his surgical colleague Friedrich, the collapsing of the whole chest wall, and the operation was later carried out resecting a long piece of all ribs on one side.

6. Resection of the scaleni muscles and the first rib in conjunction with a phrenic avulsion.

7. By an open or closed pneumolysis with the use of a cautery.

8. Resection of the intercostal nerves associated with phrenic avulsion and scalenectomy.

If one would only take time to read the literature concerning the results of surgical treatment of pulmonary tuberculosis he would be convinced that the results of such surgery not only are justified, but

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that during the past few years there have been more articles in the literature dealing with the surgical treatment of pulmonary tuberculosis than there have been articles having to do with the medical and sanatorium treatment combined. This is probably due to the fact that the treatment in the sanatorium is somewhat standardized while surgical intervention is in a process of development. It is estimated that about twenty-five per cent of the patients admitted to sanatoriums in the United States receives some form of surgical aid. In practically all of these groups, artificial pneumothorax is given first, and the results of such treatments are observed and evaluated before more extensive surgery is attempted.

At present the object of all types of surgery for pulmonary tuberculosis is the production of "pulmonary collapse". The object of pulmonary collapse is to put the lung at rest either temporarily or permanently. This collapse should be sufficient to help empty and obliterate any existing cavities. If temporary compression only is desired, only those procedures should be employed which do not disturb the bony wall, as artificial pneumothorax, etc. If it is necessary to put the lung at rest permanently then it becomes essential to utilize methods which will not only collapse the lung, but will bring the bony frame in close contact with the compressed lung and prevent its expansion.

Every patient considered for pulmonary collapse should be studied carefully by both the internist and surgeon, and a definite plan outlined. I believe all collapse to be selective, and that the judgment used in the selection of the patients, the type of collapse, the time of operation, amount of compression, and the type of operation will be a big factor in the ultimate conclusion on surgical procedures. In other words, each case should be an individual study and the operation planned to the existing conditions.

TECHNIC OF PHRENIC AVULSION

The usual pre-operative technique is employed. The site for the incision is selected about 2 c.m. above and parallel to the clavicle, preferably in a transverse fold which will give a better cosmetic result. The length of the incision should be

about one and one-half to two inches and in such a location that the line of incision will be bisected by the posterior border of the sterno-cleido mastoid muscle.

Ordinary local anaesthetic technique is employed, using one-half to one per cent novocaine infiltrating the subcutaneous tissues into the deeper layers with no attempt at a new block.

The incision being made through the platysma, the remainder of the operation is carried out by blunt dissection, by the use of blunt pointed Mayo scissors and a Kelly clamp. The first important structure is the large external jugular vein which usually runs obliquely to the incision, which is easily disposed of by the use of a retractor pulling it toward the median line. At this point the belly of the scalenus-anticus muscle can be palpated. Anteriorly the pulsating carotid can be felt and posteriorly the belly of the median scaleni muscle is palpated. Once the operator orients himself and the scaleni anticus, the location of the phrenic nerve is obvious since it will be found coursing down the anterior surface of the scaleni anticus in a downward and inward direction. The nerve is then injected with a few drops of novocaine and easily lifted out of its bed, clamped distal to the site of injection, cut and avulsed in the manner to be described. Indication preliminary to thoracoplasty:

1. To improve the patient's general condition.
2. To secure better compression after rib resection.
3. To prevent aspiration pneumonia.
4. To test integrity of better lung.
5. To relax adhesions holding cavities open.
6. To control hemorrhage.
7. To relax the lung around the thin walled areas.
8. To provide additional rest to the lesion in the case of patients who may not have proper or sufficient care after leaving the hospital.

THORACOPLASTY

Thoracoplasties should always be preceded by the paralysis of the diaphragm, and should be done in stages, usually two; but on the contrary there are some thoracic surgeons who advocate a one stage

operation on an especially good risk. We owe to Dr. Hedblom and Colonel Keller in this country the principle of graded thoracoplasty which means multiple operation and but little at a time. At one time the continental practice was all in favor of removing ten or eleven ribs at one stage, and at present some continue the practice, but wiser surgeons were advising two stages and at the present time many advocate many stages. Personally I think the number of stages should be determined by the patient's general condition with special emphasis on the amount of improvement shown following the first stage. The majority of men resect the upper ribs first, from the first to the fifth or sixth inclusive, it being essential to resect the first rib, for the absence of this rib allows the entire hemithorax to drop downward since the first rib is the anchor to the bony cage. In many instances it is difficult to expose the first rib but Alexander advocates dividing the serratus magnus muscle thereby producing a better exposure. If the maximum amount of compression be obtained it is necessary to remove four, five or six inches of the rib as close to the vertebrae as possible and some men remove a tip of the transverse process of the vertebrae along with the rib. Following the first stage the second stage is done in about six to eight weeks if further compression is necessary, with the removal of the lower fifth or sixth ribs. The majority of surgeons prefer a para-vertebral operation, but sometimes a parasternal operation is done usually as a supplement to a previously performed para-vertebral operation. The posterior route is preferable since we have a wider selective area for a more extensive collapse. Also the degree of deformity is lessened when the approach is posterior.

CONCLUSION

Conservatism in the selection of patients, pre-operative management, adaptation of the operative procedure to the individual patient, and following through to an adequate degree of lung collapse will extend indications, improve results, and decrease mortality.

RECTO-COLONIC DISEASE*

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It is my purpose in this address to co-ordinate the labors of the general practitioners and the special branches of our science with special reference to procto-enterology.

From the earliest inception of our science the engrossing attention of some thus engaged gave special emphasis to one or another phase of the ills of man. So it was that stomach and bowel specialists were engaged in the House of Pharaoh. Their title was, "Those having special knowledge of the internal fluids and guardians of the anus." In the ruins of Pompeii were found instruments which revealed their adept method of approach to rectal pathology. We know the Israelites suffered rectal diseases because "The Lord smote them in the hinder parts and gave them Emerods." But why engage in thoughts of antiquity? This is a new day, a day of sunlit knowledge never before attained.

As a child I annoyed my stepmother by asking questions. She tried to break me but her reward was more questions; so you will just forgive me now for asking—why rectal and colonic disease?

Quadrupeds very seldom suffer rectal and colonic diseases, and coming up the scale of animal life, we note that the savage in his natural haunts does not suffer recto-colonic diseases as does his civilized and cultured brother. There must be some rational answer to these irrefutable statements.

Recto-colonic diseases are as old as the human race, and procto-enterology has been practiced since the days of antiquity. Proctology, however, was not really practiced as a specialty in modern times until men, whose names are fairly familiar, such as Kelsey, Allingham, Mathews and Tuttle developed the specialty, and to them the profession owes homage.

Man was the last animal God created, and He was pleased because He created man "In His own image." And so proud was man that he arose from the position of other animals and stood erect, but this

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was an assumed position for which he was not altogether prepared. His colon was suspended as is the colon of a quadruped, with points of fixation in the right and left upper quadrants of his abdomen, so that when man stood, his colon became angulated and it is often allowed, by stretching of its supports, to descend and become illy drained. The veins of his rectum are not protected by valves as are the veins of his legs and arms. If we hold a shot sack up by one end, the shot naturally gravitates to the lower end, so this is exactly what happens to the columns of blood in the hemorrhoidal veins.

Then man became more luxuriant in his mode of living. His food and drink became matters of taste, custom and habit. He separated the chaff from the grain and added the condiments, some of which, for example peppers, are irritants throughout the intestines as they would be to the eyes. But there are no sensory nerves in the internal viscera and an intestine may be severed with a knife without causing pain. Then man became so smart he actually selected only the germinating inner portion of grain, seed and bulbous plants for food and cooked the life out of some of it, so that the contained essential vitamins were altered or destroyed. He then added various things such as soda, tartaric acid, and other chemicals to lighten it. Then he added sweets to add to its fermenting process in the intestines. Some of his food-stuffs were then carried through long processes of fermentation, the products of which were found to produce an exhilarating effect. Then water became less valued for drinking purposes so that the tissues and intestinal content became dried out. The conventions became changed to suit the cultural requirements, so that the colon and rectum were required to tolerate lethargy and neglect and serve a more convenient season, while the tissues, needing water, abstracted the water from the colonic content and copremia resulted. The eventual evacuation of this dessicated mass resulted in traumatism of the more or less delicate structures of the intestinal outlet; namely, the crypts of Morgagni and the pillars of Glisson which are richly supplied with nerves and surrounded by a network of veins.

Then man gets in a hurry, gulps his food like a cow in order to catch the next train or to fill an engagement. He lives from tin cans and cracker boxes, and frequently partakes of poisonous stuff while he is in a state of fatigue, thus showering his system with deadly exogenous and endogenous toxins. Improper food hurriedly masticated and washed down by the various menstrua prevent salivation. The kind and manner of eating, and no less the rapid and then indolent periods and various other factors, have brought about a lowered resistance of our bodies. Septic infections became more prevalent; sudden changes in temperature, as also fumes and gases have added to these productivities, and thus man has become an easy prey to septic infections. *Pyorrhea alveolaris*, a sinusitis or a tonsilitis will send some of its germ laden secretion into the stomach and intestine. These germs which are often streptococci lodge on, and are most likely to invade the mucosa and there set up pathological processes in patients of lowered resistance and at points of stasis and traumatism. These points are: (1) the stomach, (2) the duodenum, (3) the appendix and ileocecal valve, (4) the rectosigmoid valve, (5) the rectal valves and (6) the crypts of Morgagni

Then too, the blood stream and lymphatics are carriers of these infections and these infections produce small petechial infarctions in remote parts of the body. Show me any serious septic infection of the teeth, gums, sinuses, or tonsils and I will display these petechial infarctions in the skin of the chest and other parts of the body. This is a personal observation that I have never heard mentioned by anyone else. If you will look for them you will be surprised by the number of your patients having them, and how soon you will learn to place reliance in them as red danger signals.

The points in the alimentary canal previously described are the points most often affected by disease in the alimentary canal. Let us look in retrospect. Were peptic ulcers, appendicitis, gall-bladder disease and cancer less prevalent when these head, mouth, and throat infections were less prevalent? Indeed they were.

Two leading medical missionaries, Dr.

Dye in the Belgian Congo, and Dr. Weber in Equatorial Africa, have served in their respective stations 35 and 40 years and have never seen a peptic ulcer or cancer among the tribes bearing their sick to them hundreds of miles. They never suffer our septic infections, blow their noses, or have head colds, and their teeth are perfect, except those which have been filed to a point in accordance with tribal customs. I am told the same is true in Tibet.

We are observing that quite a number of people are allergic to a number of things, and may I say protein sensitivity alone deserves the life time study of the best scientists. A child with the sniffles is an allergic child, and should receive attention before his mucous membranes have become irreparably damaged and sinuses have become blocked and infected. That child is already a potential invalid in adulthood. A proper diet, a little lime and iodine might prove valuable corrective agents. An important fact is that the intestinal tract will probably be similarly affected by this allergic process through the parasympathetic innervation.

When I am consulted for any rectal or colonic disease, it is my invariable rule to inquire as to the kinds and relative quantity of each food eaten and to carefully examine the throat and mouth. This routine study has convinced me that few patients suffer rectal disease which cannot be traced to septic infection above. Many parent diarrheas among children are traceable to focal infections. Many cases of colitis are traceable solely to this origin.

A prominent doctor from Oklahoma City brought a lady with persistent colitis to my office. A distinguished Eastern gastro-enterologist who did not think so well of my ideas of the focal etiology of gastro-enterologic disease was in my office and was requested first to examine the patient. He overlooked the cause of a so-called spastic colitis which my assistant then demonstrated by expressing pus from her tonsils.

Some amusing episodes have occurred in my office as in yours. A lady attendant was told to look into the sigmoidoscope as I remarked: "There it is, those infected tonsils." Before leaving the office I told

the patient I could not cure her colitis until her tonsils were removed. After she left my office she asked a friend who was with her, "Did you hear what that old doctor said? Do you suppose he could see my tonsils?"

A millionaire of Oklahoma was brought to me by his doctor. He had already visited several Eastern medical centers on account of an intractable pruritus. I told him I could not cure him and would not attempt to until he returned home and had all of his infected teeth extracted. He protested because the wonderful bridge work, some of which I call the abomination of civilization, had cost him a great deal. But he did as I advised and when one month later he returned, I operated on him and had his infected tonsils removed at the same time. This man was evidently pleased for he has brought other patients to me in his airplane.

In this country, race mixtures and association have contributed to a greater susceptibility of negroes to septic infections and consequent gastro-intestinal and rectal diseases. Those of you who are surgeons will recall the rarity among negroes of peptic ulcers, colitis, gastric and colonic cancer, also cryptitis and hemorrhoids. Lymphofibroma, and granuloma inguinale are essentially diseases of the negro race. Rectal gonorrheal strictures are quite prevalent in the negro race in the south. It has become a fad among negroes to cap good teeth, and some of these develop irritations and inflammations of their gums with occasional consequent recto-colonic disease. Perhaps 25 per cent have syphilis, and syphilitic anal lesions are not uncommon. Among the whites of the lower immoral strata anal syphilis and gonorrheal strictures are not uncommon. Ducrey and Unna streptobacillus (chancreoid) ulceration is frequently present therefore Frei antigen is positive in many cases.

Both rectal gonorrhea and pus tubes often set up a transudative inflammation, fibrosis and stricture around the rectum. I believe the streptococcus plays an important role in many of these strictures, and that they are by far the most common forms of rectal strictures. They are easily, safely, and effectively treated by the following described operation which I dem-

onstrated to the American Proctologic Society in 1931. (Description of this operation is given in *Cyclopedia of Medicine*, Vol. X, Page 1122.)

Bilateral incisions are made up to and beyond the upper border of the circum-rectal mass of hard fibrous structure; this is divided carefully by turning the knife blade toward the gut wall and with the finger in the rectum as a guide, a division of the resistant fibrous structure is made. The mucosa is left intact always and usually the gut wall itself is only in part divided. The opening sharp pointed bivalved speculum gently opens the gut with surprisingly little pressure and the ulcerated mucosa is treated by very careful cleansing with S. T.-37, then covered with an iodine powder such as Thymol Iodide or a Bismuth Methylin Ointment, and a soft rubber covered tampon with tube through it, is inserted. Each of the lateral incisions have been drained with an Iodoform strip of gauze inserted to the roof of the incision to drain this infected area for a few days. The drains are removed after the tampon or may remain longer.

It is often necessary to divide the pelvic fascia and separate the levator attachment for some distance around the gut, for, in fact, many strictures involve these structures. The procedure requires fearless but careful surgery with only the finger to guide the work.

The treatment of the ulcerated rectum must be started when the tampon is removed and continued until cured, and to properly treat this ulceration the "proctoscopic position" is essential.

This operation is only applicable for strictures below the peritoneal reflection and above the anus, and it is advisable in them to divide the anus posteriorly for drainage of the ulcerated area above, and to facilitate treatments of the ulceration, for this is a daily task.

The pathology of benign and non-tuberculous strictures is extra-mucosal and to a large degree extra visceral. If this were not true, the pressure put upon them in an effort to dilate them would rupture the stricture. The infection is often either Neisserian, streptococcic, a mixture of the two, or a Vincent's.

These infections are prone to extend

through the gut wall, producing a transudative exudate which on becoming organized forms a circumvisceral band. There is an ulceration in the gut which must be properly treated or the process will continue to the reformation of the stricture. Since both the streptococcic and the Vincent's infections come from above, these should be attended to first, or at the same time the stricture is being dealt with. Likewise all gonorrheal infection must be cleared as thoroughly as possible, even though a complete ablation of the female pelvic organs may be required.

These stenoses are never cured by the old methods because: (1) the etiology was not recognized and dealt with first, and (2) the pathology was not dealt with in the proper manner.

Tubercular strictures of the rectum and anus are not uncommon, and I have encountered one case of rectal stricture caused by blastomycosis. I thought this was malignant, performed a hasty colostomy to relieve obstruction and obtained a biopsy and later removed the inguinal glands on each side. In each was found a double contoured budding yeast-like organism, staining with acid dyes, about 15 to 20 micro in diameter. Culture on Sabouraud's Media yielded an oidium, whose reaction and biochemical, pathogenic, and serological properties were not investigated.

Benign strictures of the rectum have been the bane of surgeons always, but this operation simplifies the treatment and cures a large percentage of these strictures.

HEMORRHOIDS

Hemorrhoids begin with infection in the crypt of Morgagni. The surrounding veins become infected, and the vein fibrosa becomes involved. These veins, having no valves, and due to the erect posture of man, become congested and dilated. The leucocytes are extravasated and become organized to form the tumefaction. Keep these facts in mind, please, when you are called upon to treat this condition. There is no operation or treatment for the condition but the excision of the pathology as described, which is adaptable to all cases.

PERIRECTAL ABSCESS AND FISTULA

I have no fight with those general sur-

geons who operate most fistulae. Most of my cases have been operated one to four times. I rather want to help you. If one has a perirectal abscess he has a fistula already, because most cases begin with an infected crypt and that is most often found in a posterior quadrant. If it is a superior pelvirectal abscess, it probably became such through neglect. The chief exceptions to these two statements are those abscesses and fistulae which are the result of the injection treatment of hemorrhoids, and foreign bodies. An assistant often remarks of me in jest, "He is going to find the fistula if he has to make one." The abscess must represent the apex of a triangle. Few cases treated in this manner require secondary operation. It, however, is contrary to the general practice of the leading proctologists of this and foreign countries.

At a meeting of the Southern Medical Association in Asheville, North Carolina, October 9, 1900, I first advocated this broad incision which must uncover the entire abscess, and gave a diagrammatic description by making the abscess the apex of a triangle or cone.

The treatment prescribed by Mathews, Allingham, and others was to "open the abscess and with the finger break up the loculi." My practice is to excise the fistula or the fistulae and this, of course, necessitates the division of the sphincter muscle at one or more points. The muscle may be temporarily sutured, and union of its ends prevented by not tying the sutures tight enough to bring the muscle ends to approximation. When the abscess has partially filled by granulations the sutures are removed. Incontinence may be prevented by this means. I no longer pack these abscesses and fistulous tracts, whereby we interfere with the *vis medicatrix naturae*.

Urologists may quite frequently find a procto-enterologist helpful in clearing pyelitis, prostatic irritability, and urethral symptoms. One had removed several infected inguinal glands which I convinced him were caused by an infected crypt of Morgagni. At another time as a patient got on my table and I observed his relaxed pouting sphincter, I sent him to a urologist who found a four plus Wassermann (central nervous system syphilis).



Fig. 1 & 2. Giardiasis and Vincent's infection, Grave avitaminosis and adynamia.

I wish to admonish you who apply radium in the cervix, to very thoroughly screen the posterior wall of the vagina, because a violent proctitis may be caused by the radium.

A gentleman was supposed to have cancer of the colon on account of bloody stools, spasm and pain. *x*-Ray examination seemed to verify that diagnosis. Sigmoidoscopy revealed only proctocolitis. He had badly infected teeth and tonsils. After belladonna was given and a brief course of treatment, another *x*-ray study revealed only colitis with marked spasticity. The infected teeth and tonsils were removed and, though that man had been brought to the hospital by two doctors for operation for cancer of the colon, he is now entirely well.

Before leaving the most important subject of focal infection, I beg to quote my statement in a former address (Southern Medical Association and The American Proctologic Society): "When medical science teaches mankind the dangers of just two microorganisms, namely, the streptococcus and the colon bacillus, whose normal habitat is the alimentary tract, and learns to control their ravages in the human host, our longevity will be raised to one hundred years and our youth to half a century. We mix streptococci with our food and convey them to the most vital recesses of our organisms. They open the portals of our intestinal mucosa and invite the colon-bacillus to enter. Together they enter our blood vessels and play havoc in the vascular walls, where deposits of reactive products make them less resistant. The intestines are thus less capable of performing their digestive function and in case of proctocolitis from whatever primary cause, these collateral infections add insult to injury."

Autogenous vaccines and bacteriophage are valued adjuvants to the treatment of many rectocolonic infections and diseases.

Tuberculous ulcerations, with or without abscess and fistula formation about the rectum and anus, are frequently observed and I do not dread them as I once did, but I have found that radical excision and free drainage is required. There must be no pocketing or obstruction of drainage. Here the sunlight or actinic ray treat-

ment is most helpful. The wound is at first very carefully sterilized with tincture of iodine, formaldehyde and alcohol; thereafter healing is rapid and sure, provided the patient is kept quiet until repair is complete. In this, as in some other infections and ulceration about the rectum and anus, it is necessary to put the sphincter muscle at rest, not by bruising and stretching, but by division. Keep all such cases out of automobiles if you hope for them to heal.

Megacolon has been the bane of contention between two factions. Each are sometimes right and sometimes wrong. Sympathectomy may be considered necessary in some, while a simple valvotomy cured one case referred to me six months ago.

In the armies of the War between the States thousands died of dysentery, and that erudite student of his day, Woodard, penned with vivid description the onset and progress of the malady. That yesteryear work was without proctoscope, microscope, test tubes, or a knowledge of antigens, sera, or agglutinins or other scientific tests in vogue today. Pathology was gross and the initial and collateral etiological factors were mere vague speculations.

In 1902 the author first reported (Mississippi Valley Medical Association) a series of 17 cases of dysentery, a number of which were amebic. Since then there have been under our care at all times one or more patients with protozoan infection.

We were called in consultation to see a doctor from Arkansas with chronic amebiasis, who had become violent and had broken the hospital furniture. Internists and neurologists considered the case one of hopeless psychosis. Intensive treatment of his amebiasis was instituted, and in one month he appeared normal. A lady similarly afflicted had spent weeks in a room for violent patients. She insisted that she had lost her soul. Since her amebiasis and giardiasis have been cleared up, she wonders why she was so foolish.

Skin manifestations of protozoiasis are so varied and sometimes so distressing, that a dermatologist should often have a proctologist see them. Entirely too many abdominal operations are performed in this country without relief because a para-

sitic etiology is not suspected. We see many with two to three abdominal scars. In one Memphis hospital 10 per cent of appendices contained either protozoa or pin worms. In most hospitals an appendix is thrown into an ice box without examination for protozoa or other parasites. One case was operated many times but the abdomen would not remain closed because the wound contained *Strongyloides intestinalis*.

The protozoa we have observed in our section are: *Endameba histolytica*, *Iodameba Buetschlii*, *Endolimax nana*, *Giardia intestinalis*, *Dientameba fragilis*, *Chilomastix mesnili*, *Trichomonas hominis*, *Ameba gingivalis*.

Description of each of these protozoa, which time limit forbids giving, may be found in my chapter on Intestinal Protozoa, IX Volume, Piersol Cyclopaedia of Medicine.

During our early observations and study of protozoan infections from 1902 to 1912, various sections of the United States were visited, and amebic infections were found in all sections visited. Two patients suffering with dysentery in Denver, Colorado, were examined and in both the *Endameba histolytica* were found. Two

army attaches contracted amebic dysentery while residing in Yellowstone Park. Many victims of amebic infections were found on the Pacific coast. One patient from West Virginia was suffering amebiasis and another was brought to us from the mountain district of East Tennessee. Patients with amebic infections were often seen from various sections of the South. Our earliest writings of dysentery expressed belief that amebic infections were indigenous to all parts of the United States. Amebic and other protozoan infections are now becoming alarmingly prevalent throughout this country and are a serious economic problem.

It is a known fact that most gardeners fertilize their gardens with raw manure and spread of protozoan infections is predicted thereby. Such vegetables are often contaminated with human excreta. We have treated gardeners and purveyors of raw vegetables for *Endameba histolytica* infection, none of whom were cured when they voluntarily dismissed themselves from further treatment.

The American population is 100 per cent manure eaters because every one eats raw vegetables. All hotels and restaurants place food in lettuce and garnish dishes



Fig. 3. Tuberculosis of lower sigmoid of colon and rectum, complicating amebic colitis.

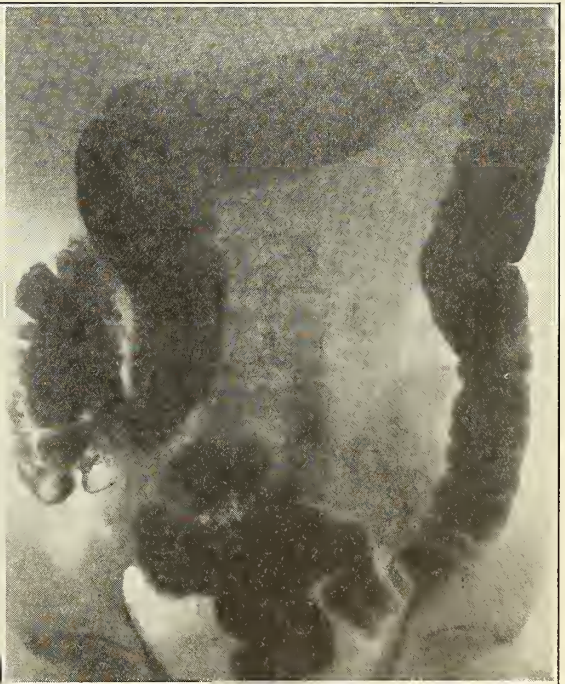


Fig. 4. Adenomatosis Coli and Streptococcic infection productive of spasticity and obstruction (malignant).

with parsley and cress. We doubt if any one who has observed the entire process of raising, washing, and transportation of these foods would relish them.

Prevention should be our first aim in the control of disease and protozoiasis cannot be prevented, or its rapid spread checked, except by a frank discussion of its modes of conveyance from one host to another. This will never be done by private individuals though much inclined to philanthropy; for they hamper the sale of truck garden property in their community, and may become liable for damage by openly condemning a gardener or truckster for handling food salable to the public while under treatment for protozoan infection. The most fastidious housewife believes vegetables, washed until she can no longer see particles of filth on them, are wholesome and would resent imputation to the contrary.

In rural communities, closets recommended by health authorities should be used. The medical profession should be less critical and encourage patients to comply with such sanitary regulations. Many amebic and flagellate infections have been traced to their origin. In many instances these infections are as easily traced as typhoid or smallpox to one or more preceding cases.

Many protozoan infections are given vague descriptions and diagnoses, especially when improper diagnostic methods are practiced, or too hasty answers given to the logical questions—"What is the matter?" and "What is the cause?" Such diagnoses as "mucous colitis," "mucous diarrhea," "spastic colon," "nervous diarrhea," etc. *ad infinitum* are given. If those who use these terms live to see more scientific rules and nomenclature established, they may regret that they wrote thus. Nevertheless I grant equal sincerity to those who differ with me.

Proteo-toxemia alone is worthy of a lifetime study. Contrary to the general opinion of the harmlessness of other intestinal flora, some clinical observations indicate that they may also act as sensitizers in allergic individuals. For example—we have observed in some patients that *Spirilla* were quite numerous and by transduodenal irrigations with neoar-

sphenamine we promptly cleared up the allergic symptoms.

A number of unmixed flagellate infections were never noticed until during and after the Spanish-American War. Something occurred about this time easily surmised by a close student of emigration and epidemiology. Soon thereafter pellagra rapidly spread throughout the Southern and Mississippi Valley states. We watched these invasions along the line of distribution and travel, with greater interest from 1910, when we saw the first well defined pellagra patient carrying both *Endamebae* and flagellates. We reported this case and presented the patient to the April 1910 meeting of the Tennessee State Medical Association, and again in June before the American Proctologic Society in St. Louis. (See Transactions American Proctologic Society 1910, p. 128.)

Neurologists have referred patients to me whose intestinal contents showed the true cause of their afflictions. Several were patients with combined degeneration of the columns of the cord and paralysis of the lower extremities, and in one the bladder and bowel also—caused by virulent flagellates. These cases thus diagnosed by the author were reported by the South's most brilliant neurologist, the late Dr. William G. Somerville, at a meeting of the Southern Medical Association in Asheville, North Carolina. (See Southern Medical Journal, February 1910.)

Many neurological patients of the melancholic type have been diagnosed Pellagrins because we found showers of intestinal flagellates, although skin manifestations upon which so many doctors rely as definite proof of pellagra, were not yet present. This diagnosis was not popular when the patient was a rich banker's wife from a distant city. Her home physician disputed the diagnosis and sent her to a great clinic. She was told that her trouble was imaginary, to return home and eat what she pleased. This she did. In two weeks the family doctor wrote the neurologist that well marked pellagrous skin and mouth symptoms had developed. Similar case records could be multiplied a hundred times with never failing proof. The above first named neurologist found a case of severe pellagra in which no flagellates

were found. This patient was hospitalized and a properly taken specimen examined. Thirty or forty flagellates to the microscopic field were found.

The dermatologists have much to learn concerning the true etiology of many skin diseases. Often we have seen eczematous, urticarial, and other manifestations associated with protozoiasis, relieved by no other treatment than that which was directed to the eradication of protozoan infections. This is an important observation. Lesions simulating psoriasis and lichen planus involving the entire body, have been cleared up in proportion to the degree of eradication of intestinal flagellates.

The internist likewise often administers suprarenalin, ovarian, thyroid, pituitary, pancreatic and gastro-intestinal gland extracts for fancied and in some instances real deficiencies, when a careful microscopic examination of the feces would reveal protozoa responsible for such deficiencies.

For many years my contention that the intestinal flagellates were responsible for certain disease phenomena was questioned and later a few interested investigators referred to one, namely, the *Balantidium coli*, as capable of producing diarrhea. Of late years Lynch, Terrell, Smithies and others observe that other forms produce symptoms. I cannot conceive that a scientific mind observing these infestations could doubt their pathogenicity, when various skin lesions from eczema to the most extensive lesions of pellagra, with other symptom complexes are cured promptly by treatment directed chiefly against these intestinal parasites. Cures are convincing, even though direct tissue invasion evidence is lacking. Arsenic given empirically in some skin diseases was curative. It is one of our best parasitocides.

Very few men in this country, or elsewhere, are aware that some protozoa, including certain forms of ameba and flagellates, are vitamin robbers and may, in this manner, play an important role in producing avitaminosis and various neurological, skin, and digestive symptoms. Especially is this true in cases of infestations with *Iodameba*, *Chilomastix mes-*

nili, *Trichomonas*, *Waskia intestinalis* and *Giardia*.

Symptoms in some cases of protozoan infections are rather obscure and subjects of protozoan infections frequently turn against their closest relations and often develop suicidal mania. They often retain mental symptoms after the amebae and other protozoa can no longer be demonstrated.

Some victims of protozoan infections would shield their neurological symptoms from family and friends and only confidential questioning by the medical attendant will compel admission. A doctor said, "Yes, I feel dizzy and drunk, and I have had fears that my friends and patrons would think I was drunk or taking dope." This man had a double infection of flagellae and amebae, and presented a typical case of pellagra with almost every symptom ever given by writers.

Many of the *Endamebae histolytica* infested intestines do not reveal classic description given when viewed through the proctoscope, but there is a rather hypertrophic proctocolitis, very red and thickened. In either case they are covered with a greyish sanguinous, mucopurulent material which has a distinct musky odor, and which one need smell but a few times until it will become indelibly stamped on his memory. It is so distinct one can make (never wisely, however) a diagnosis without the aid of a microscope. I put it thus, because, beginning an active treatment of amebiasis before a proven diagnosis is made microscopically, is parallel to the treatment of malaria in the same manner. In a few days symptoms have abated, but the disease is not cured, the patient is a victim of both the parasite and the doctor and becomes more or less anemic, less efficient, less happy and remains a carrier as long as allowed thus to exist by the accommodating *Endamebae*.

The ameba is a cyst when it is ingested, possessing a rather resistant capsule. If the stomach contents are normally acid, and if the peristaltic waves of expulsion are not unduly hastened, the cysts are probably destroyed, but the stomachs of some individuals contain very little free hydrochloric acid, and the cysts are not destroyed.

healthy mouths, throats, and sinuses have resistant colons. Look into a healthy colon and nothing will be adherent to the mucous membrane. If the individual has an infection of the mouth, throat, or sinuses, soon coccic infection, either in patches or more or less generally distributed, will appear. Then mucus and debris adhere to these areas which are the seat of infection. Here amebae find a favorable place for lodgment, and access to the submucous structures. The accommodation relationships of all animal life, like sin, are first abhorred, then endured, then embraced. I have seen people with *Endameba histolytica* infections with notable symptoms, who gained 20 to 30 pounds in weight and were proving themselves capable hosts in maintaining both themselves and their *Endameba* guests in comfort. When another individual becomes infected with the same species, all of the pathology and symptoms descriptive of amebic infection, and even death may occur. This role of accommodation and sacrificial surrender of one animal life to another has not been an easy problem to solve, but when it is solved, we believe it will be biological.

—————R—————

M. Bernard Brahdy, Mount Vernon, N. Y., and Maurice Lenarsky, New York (J.A.M.A.), discuss the first, second and third stages of acute poliomyelitis and state that of 1,123 patients admitted to the Willard Parker Hospital in 1931 with the diagnosis of poliomyelitis, 113 did not have poliomyelitis but in whom thirty-six other conditions were diagnosed after clinical study and laboratory investigation in the hospital. There were twenty-eight patients with ten different conditions who supposedly had poliomyelitis in the first stage; fifty patients with twenty different conditions simulating poliomyelitis in the second stage, and thirty-five patients with twenty-one different conditions simulating poliomyelitis in the third stage. The majority of these patients should have had a correct diagnosis made by their personal physician, even though the diagnostic difficulties are greater in the home than in the hospital. The family physician sees many patients in the first stage of the disease, at a time when he is unable, with certainty, to establish the diagnosis of poliomyelitis. However, in many instances it is possible to find some other condition to account for the patient's symptoms. There is a tendency, especially during epidemic periods, to make the diagnosis of poliomyelitis without obtaining a history and making a careful physical examination. As the disease progresses into the second or third stage there are more tangible symptoms on which to make a positive diagnosis of poliomyelitis. Parallel with the increase in the number of symptoms there is an increase in the number of conditions mistaken for poliomyelitis. Nothing is more important than a careful history and physical examination. If, in addition, poliomyelitis is considered as occurring in three stages, the differential diagnosis will be simpler and the percentage of incorrect diagnoses will decrease.

CASE REPORTS

Carcinoma of the Stomach With Early Leukocytosis

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and

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A railroad office clerk, 57 years old, entered St. Margaret's Hospital on January 22, 1933, for the repair of a right inguinal hernia which he had first noticed eighteen months previously. The hernia had caused no symptoms except protrusion, and his health was otherwise good. Excision of a tumor of the bladder had been done elsewhere in 1919 through a suprapubic incision. He had had no urinary or other symptoms since that time. There was no history of cancer in his family.

The hernia extended into the scrotum but could be reduced easily. Physical examination was otherwise negative. The urine was normal. The concentration of hemoglobin was 88 per cent. There were, in each cubic millimeter of blood, 5,100,000 erythrocytes and 28,700 leukocytes, of which 84 per cent were polymorphonuclear neutrophils. This surprisingly large number of leukocytes was shown to be correct by repeated count. Abnormal cells were not present.

The general condition of the patient seemed to be excellent. No cause for the leukocytosis could be discovered. On January 24, after infiltration of solution of procaine hydrochloride, the hernia was repaired. The wound healed normally. After the third postoperative day, the temperature did not exceed 99° F. The patient had an uneventful recovery, and left the hospital on February 9.

About March 1, a gnawing pain in the epigastrium began, not related to the time of eating and not relieved by food. His feces became lighter brown. After several weeks, he lost his appetite. He returned to the hospital on March 31. He had lost no

Structures already pathological favor lodgment of the *Endameba*. Persons with

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weight and was not jaundiced. There was some tenderness deep in the epigastrium, but definite masses could not be felt. The lymph nodes were not enlarged in the supraclavicular regions or elsewhere. The concentration of hemoglobin was 91 per cent. In each cubic millimeter of blood, there were 4,840,000 erythrocytes and 51,000 leukocytes. Fluid aspirated from the stomach one hour after an Ewald meal contained no free hydrochloric acid; the total acidity was 10; the chemical test for blood was positive. Fluoroscopic examination of the stomach showed a defect at the middle of the greater curvature, apparently caused by a small mass in the anterior wall of the stomach.

After several days, this nodular mass could be more definitely outlined by palpation. On April 12, an exploratory operation was done, using ether anesthesia. The middle third of the anterior wall of the stomach was replaced by nodular tumor tissue. The serosa of the remainder of the stomach, the greater omentum, and the gastrohepatic omentum were studded with white nodules which varied from 2 to 5 mm. in diameter. A firm mass of enlarged lymph nodes in the free border of the gastrohepatic omentum seemed matted around the common bile duct. A nodule was removed from the anterior wall of the stomach; sections prepared with the freezing microtome, stained with polychrome methylene blue, and examined during the operation, showed an undifferentiated rapidly growing type of adenocarcinoma with frequent areas of necrosis. It was impossible to entirely remove the growth. Its location in the middle third of the stomach made the prospects of obstruction of the lumen of the viscus unlikely. Therefore, no further surgical procedure was carried out.

The patient had a normal convalescence from the operation. He continued to have epigastric distress and lost weight rapidly. On April 22, his left supraclavicular lymph node was found to be enlarging. Secondary anemia did not occur. On April 26, the concentration of hemoglobin was 91 per cent; there were 5,200,000 erythrocytes and 33,000 leukocytes in each cubic millimeter of blood. He gradually became jaundiced, and the feces became

clay color. On June 1, vomiting began. He died June 4, 1933.

Necropsy was done. A carcinomatous ulcer, 3 cm. in diameter, was located at about the middle of the greater curvature of the stomach; from it, the carcinoma had extended into the wall of almost all the middle and pyloric thirds of the stomach. There was considerable involvement of the peritoneum, as had been noted at the time of operation. The common bile duct was almost completely obstructed by the pressure of the involved lymph nodes surrounding it. The histologic structure of the tumor, in the wall of the ulcer and in the metastatic nodules, was that of a poorly differentiated adenocarcinoma; there was a decided tendency to necrosis, and there were many polymorphonuclear leukocytes in various portions of the lesions.

—————R—————

Large Ovarian Cyst With Recurrent Rupture

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A woman, aged 30, married, mother of three children, youngest six years, menstruation regular. Now complains of fullness and pains in her abdomen. Her abdomen is very distended, sensitive and tender all over, percussion note is flat and abdominal wall definitely rigid. No masses or tumor can be felt, questionable fluid wave, abdomen seems too tense.

Vaginal examination shows cervix low and firm with evidence of increased intra-abdominal pressure.

Temperature, 97°; pulse, 88; respiration, 24; weight, 165; urine, acid; specific gravity, 1016; albumin, plus; sugar, negative; blood, hemoglobin, 85, white, 8,000; blood pressure, 130/70; heart, normal.

History: Enlargement of abdomen has continued over a period of two years. In February, 1932, she noticed that the abdomen was enlarged and for the previous two months she had not been feeling well; was extremely nervous, sleep broken, nauseated, vomiting several times a day.

In 1932 she consulted a physician who thought she might be pregnant; abdomen continued to enlarge but periods continued regularly.

In November, 1932, she states her abdominal measurements were 41 inches, a few days later she felt a "real sharp catch" across abdomen accompanied by cramping pains, she developed a general soreness all over abdomen, this lasted about a week, had to be in bed three or four days, during this time she was nauseated and vomited several times. Kidneys acted very freely, three or four times at night which was not usual with her, passed large quantities day and night.

After getting about again her abdominal measurement was thirty-one inches.

After an interval of ease (10 weeks) she noticed that her abdomen was again beginning to enlarge. During the months of June and July (1933) she was very uncomfortable. July 10 patient went through the same experience, sudden pain in abdomen, nausea and vomiting, polyuria and general soreness all over abdomen persisting several days, then a period of ease lasting about the same length of time as in her previous experience.

By the last week in November abdomen had again increased in size to the point of discomfort. In December patient consulted Dr. L. A. Kerr, Lincoln, Kansas, who diagnosed an ovarian cyst and advised operation. During the next few days, while arranging to enter the hospital, the patient experienced for the third time the sudden sharp pain with the accompanying train of symptoms. On entering the hospital patient presented a picture more of abdominal ascites than that of ovarian cyst but with the history and Dr. Kerr's previous finding, a tentative diagnosis of ruptured ovarian cyst was made.

Operation: Laparotomy; 12-30-33 median incision. The opening of the peritoneum was followed by a gush of ropy, slightly yellowish fluid, typically ovarian. The entire abdominal cavity was filled with this fluid. This had evidently come from a large partially collapsed unilocular ovarian cyst on the right side, there being a tear on its superior surface which admits three fingers. The cyst, although collapsed, still contains eight to ten quarts of fluid; this fluid and that in pelvis removed with aspirator.

The left ovary is the seat of a cyst the size of a large orange closely connected

with under side of broad ligament. The tube on the right side was adherent to the wall of the cyst. Both tube and cyst were removed after being clamped and sutured at the pedicle. Oophorectomy also done on left. Appendix had been removed ten years ago. Wound closed with three layers of sutures, no drain. Patient made an uneventful recovery and feels very well at this time.

Histological Pathology of Left Ovary: Section shows some ovarian tissue in which there are a number of typical retention cysts associated also with multiple diffuse hemorrhages throughout the stroma. Hemorrhagic corpus luteum can also be recognized in one of these sections. Some fatty adhesions can be seen attached to the surface of one of the sections of the ovary. Another space lined by cylindrical epithelium can be seen embedded in the ovarian tissue, evidently representing the cystic structure derived from an embryonic remnant at the hilum of the organ. It is quite possible that this cystic structure really represents a portion of the parovarian cyst that has been fused with the ovary.

Diagnosis: Chronic cystic oophoritis; ovarian hematoma; hemorrhagic corpus luteum; parovarian cyst.

Causes of rupture of ovarian tumors may be divided into (1) those arising within the tumor itself, and (2) external causes. The first produce the spontaneous ruptures of frequent observation. In the advancing growth of a proliferating cystoma, for instance, as the walls of the daughter cysts are absorbed, they may rupture outwardly as well as inwardly, especially when there has been any localized necrosis or impairment of nutrition of the cyst wall. So, too, papillary excrescences, as they impinge against the inner wall of a cyst, may cause pressure necrosis and perforation. While theoretically there should be some exciting cause in even the so-called spontaneous ruptures, in very many of them none can be found. In a large series of intraperitoneal ruptures collected by Duffner, a cause could be found in only about 38 per cent, and in very many of these the assigned cause was at least questionable.

External causes of rupture all come under the general head of traumatic, but it is well to further divide them into those due to movements of the body as a whole, and those due to trauma pure and simple.

Considering the dangers to which a woman is exposed who carries in her abdomen a large, more or less tense sac, it would not be surprising to find in medical literature, especially in that of the days before the early extirpation of ovarian tumors, a considerable number of cases of rupture due to external violence; but, after a rather careful review, Storer, some years ago, in a study of 108 collected cases found 70 of these due to this cause. Undoubtedly a large number of these were polycysts in which the accidents occurred at diseased points; so that the number of healthy-walled cysts reported as ruptured by violence must be regarded as small.

Shock may cause immediate death; in Storer's study of 108 cases, this cause was given in eight cases, these died either at once or before peritonitis had time to develop.

The clinical picture of traumatic ruptures, as compared with spontaneous, is affected by the fact that, as a rule, there is a sudden outpouring of a much larger amount of fluid than is the case in "bursting cysts". Thus the patient, in addition to feeling sudden pain, with the possible consciousness that something has burst inside of herself (10 cases), may feel as if the peritoneal cavity were suffused with hot fluid (Scanzoni), "as if the bladder had burst" (Wiltshire), "as if water were boiling up inside of herself" (Olezius), or even be aware of the sudden change in the equipoise of the abdominal contents (Morgagni). The initial pain varies from agony, producing nausea of syncope or even death, down to such slight discomfort that the patient is almost unaware of the injury. When the initial shock dies away it is often replaced by the condition known as peritonism, sometimes of very grave character. The subsequent fate of the patient depends upon the character of the escaped fluid. The contents of a simple parovarian cyst, for instance, uncontaminated by tapping or other extraneous interference, are generally harmless; and

such cases frequently recover without symptoms, except a transient free diuresis (Wells, 20 quarts in three days).

"The rent in such cysts is apt to close of itself, and soon the tumor appears again. When it does not close, we may get a clinical picture like that in Simpson's case in which there was for months polyuria, copious dejections, free diaphoresis and flushed face, the absorption and elimination of fluid going on as fast as it was poured through the rent. In other cases the cicatrized edges of an old rent have been found some time later, little or no fluid having been secreted meanwhile. It is expressly stated that there was no return of the tumor in nine cases; and excluding probable errors in diagnosis, it seems established that the spontaneous cure of ovarian tumors by rupture can occur." (Storer).

Hemorrhage, the immediate danger in Storer's case, seems somewhat rare. Rupture must take place, other things being equal, in the line of least resistance, which generally would not be that crossed by arteries of any size. In the case Storer reported, the examiner compressing the cyst firmly between his two hands, caused a rupture in the direct line between them, in spite of the fact that two small arteries crossed it. While venous oozing would be apt to cease of itself, there is a variety that may be persistent.

Peritonitis in the 108 cases studied; the fate of the patient is stated in only 82 cases, 16 of these were given as peritonitis or a total mortality of over twenty-nine per cent. The danger of this complication depends largely on the character of the fluid. Dermoid cysts and those cysts contaminated by tapping being the most frequent source.

As to treatment, if the patient has not been seen for some time after the accident and there is no evidence of peritonitis an expectant policy might be justified. If the patient is seen at once and not in shock, it seems to me far better to operate at once without waiting to be forced to do so; immediate operation lessens the danger of peritonitis and its attendant complications.

Dinitrophenol Poisoning

J. L. LATTIMORE, M.D.

Topeka, Kansas

Since the introduction to the public of the so-called beneficial results obtained in weight reduction by the use of dinitrophenol, many harmful results are being reported.

Unfortunately, the drug has been advertised in such a way that the public feel that it can be used with no bad results. Many firms, both of the ethical type and the unethical type, manufacture and distribute the drug and almost every drug store will dispense the drug, without prescription. As a rule, the bad results that have been reported are in the people using the drug, without medical supervision. It is my opinion that no person should use the drug without constant supervision by a physician.

Usual instruction for the use of the drug is, "Take one tablet three times a day, with or just before meals, increasing the number as desired to remove more weight." If warning of possible danger is not given the average patient using the drug feels perfectly safe that no serious injury will result.

The early reports on the drug were very favorable, but its use was then under constant supervision. The action of the drug is to stimulate metabolism, resulting in excessively fast oxidizing of fats. Symptoms, so far as the patient are concerned, are excessive perspiration, fatigue, increased respiration and some complain of excessive heart action.

Under supervision of the physician, warning of impending danger should be a decrease in the leukocyte count, irregular heart rhythm, excessive loss of weight, excessive fatigue, gastric upset and other symptoms, reported in some cases, such as a rash on neck and arms, drop of blood pressure and visual disturbances.

CASE REPORT

A female, age 29 years, well nourished and healthy. For several months took 3 to 5 tablets a day. Did not use the drug for three months. Resumed its use, one week prior to death, taking 5 tablets a day. On day of death felt well in morning, but very tired and perspired freely. Cared for home

duties in morning, took husband to work and called for him at noon. In evening she felt a definite nausea, which during two hours developed into vomiting. A physician was called about 7:30 and after examination, he administered $\frac{1}{4}$ grain morphine. Soon afterward she went to sleep and two hours later she died without awakening. Her temperature and pulse were normal.

Autopsy: Petechial hemorrhages over arms and legs, this may have been caused from efforts directed to artificial respiration. Lungs were negative. Heart muscles show a moderate, yet definite myocarditis. There were no valvular lesions and coronaries were not obstructed. The spleen was twice normal size, very soft, so much so that gross section showed the pulp to be almost semi-liquid. The liver was very soft and with little pressure the fingers would sink into the liver substance. The liver and kidneys were a deep pink, about the color found in carbon-monoxide poisoning. No other gross pathology was found. Microscopic examination of spleen and liver show very marked cellular destruction and hemorrhage. Sections from kidney revealed a marked destruction of epithelium lining tubules, with hemorrhage into glomeruli.

Chemical examination of extracts of spleen and liver reveals large amounts of dinitrophenol. One factor, which we are unable to explain at present, is the excessive amount of methemoglobin found in blood and tissues.

The immediate cause of death in this case was myocardial changes but I am sure that the underlying factor is the dinitrophenol. There may have been tissue regeneration in this case, should she not have resumed the use of dinitrophenol a week prior to her death. Chemical tests for other poisons and carbon-monoxide were negative.

—————R—————

Vitamin Fortification of Foods—The Committee on Foods reports that there is no convincing evidence that vitamin fortification of foods generally serves any public necessity or that it is in the best interest of public welfare; therefore, such practice is not to be encouraged. Tentatively, however, no objection is taken to the reasonable fortification of food products, whether intended for special diets, convalescents or general use, with vitamin concentrates or with natural foods rich in vitamins. (Jour. A.M.A., July 21, 1934, p. 189).

THE JOURNAL

of the

Kansas Medical Society

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EDITORIAL

The new editors of the JOURNAL of the Kansas Medical Society make their first bow in this issue. It is customary for the new editor to promise to maintain the high standards of the old. The editorial board makes that promise, not merely because it is customary, but because the new editors, like all Kansas physicians, are genuinely grateful to Dr. Earle G. Brown for giving them a periodical of real worth and interest.

The JOURNAL can be of value only so long as it provokes interest and comment, and keeps its reader informed of medical thought and activities. Without the co-operation of its readers, it cannot successfully fulfill these functions. Therefore, the

new board solicits the co-operation of the medical men of the state.

The board will appreciate contribution of news stories covering medical activities, and articles of general scientific interest. In addition, it will be the policy of the JOURNAL to publish each month, as far as space permits, signed editorials by Kansas physicians. These editorials should be of interest to the entire medical profession, and not to one group or locality alone.

SOCIALIZATION OF MEDICINE

For the past twenty years the medical profession of the United States has had warnings of the dangers of Socialized Medicine lurking in the future, some day to rise up and destroy the physician as an individual practitioner, to lower the economic position of the profession and cast aside our noble tradition.

Physicians who have gone abroad and observed the conditions under which the members of the medical profession live and work in foreign countries have returned to their homes with forebodings concerning the application of socialistic principles to medical practice in this country, realizing more than ever the economic freedom enjoyed by the American profession compared with almost every other country in the world.

The superior freedom of opportunity to establish economic security has been made the most of, particularly during the years in which specialism in medicine had its greatest development. Educational requirements became higher and medical education more expensive. Doctors became specialists in great numbers; costly equipment became necessary; group practice developed and the cost of medical care became higher.

About this time the present economic depression came on and the medical pro-

fession has suffered the dire effects as has every other profession and business. A great number of people have neglected their health because of a lack of money with which to pay for medical service, or, when necessity forced them to medical aid they have gone to free clinics or allowed themselves to accept the services of private physicians, not knowing when, if ever, they would be able to pay their medical and hospital bills.

The medical profession has been game. Private practitioners have accepted such patients and given freely of their services. The number of pay patients has diminished and the requirement for free service has increased.

Complaints of the high cost of medical care were heard before the depression in some of the large cities. Under the pressure of disrupted economic conditions this criticism began to take on the aspect of a formidable protest. The report of the Milbank Foundation on Social Trends, published two years ago, states that "notwithstanding the remarkable advance in knowledge of preventable diseases and technique, materials and equipment available for application and distribution of public health measures a considerable proportion of the people of the United States suffer from many preventable diseases, defects and disabilities. Though we are in possession of the knowledge and technique to prevent much disease and premature death it is not being fully utilized."

The report states that "the unnecessary wreckage and waste of human life is due to our ineffective distribution of medical service. We know how to do many things which we either do not do at all or do on such small scale that there is no social value to them. We have public health departments under the state, and private medical practice, privately endowed agencies, municipal hospitals and privately

operated hospitals, free clinics and pay clinics, all going their own way, each with its particular financial difficulties, limiting its usefulness, an unorganized and inadequate public service."

In a recent issue of *Plain Talk*, J. Christopher O'Day, M.D., has published an article entitled Medical Decadence, a muck raking attack upon the medical profession in which he airs the shortcomings, vices and scandals of present day medical practice. He attacks the American Medical Association as a racket. With all of the complaint and fault finding Doctor O'Day fails to express any constructive idea.

Writing on *Socialized Medicine* in the *Modern Thinker* for September, Winfield Scott Pugh, M.D. Surgeon, New York City Hospital, states that "there is only one solution to the problem of the practicing physician today. . . . the socialization of medicine. Medical care must be made a social commodity, controlled, operated and regulated by the state. The League for Socialized Medicine has been formed and urges upon physicians a statement of principles and a program for thoughtful consideration and adoption." Summarizing these principles, "The League holds the health of the people to be its chief concern. Public health is a public matter. The health of our citizens is fundamentally a social or state interest and obligation. Health must have a full legal governmental sanction and subsidy side by side with education, policing, fire fighting, courts or any other function of the government. The interest of the patient, the doctor, the public and the profession in general must be adjusted as to become identical by removing all possibility of differences or conflict. This can be done only by removing from the sphere of relationship between doctor and patient all influences of any immediate economic consideration or obstacle, all motives of a financial or personal nature. Private or institutional

practice based on the fee pay system does not permit true harmony of interest between the profession and the people. The physical care of the populace during illness as well as in health must be assured and adequate. The principles of security must be applied to the physician as well as to the public. Socialized medicine implies that the people have a right to adequate care guaranteed by the state and physicians have a right to work and be adequately paid by the people through the state. This practice shall be responsible to the state, organized, operated and regulated democratically by the medical and allied professions themselves."

Doctor Pugh concludes, "The socialization of the practice of medicine is socially just and economically sound, scientifically correct, desirable and workable. Such a system must be achieved. It is the only real solution of the Doctor's Dilemma."

We suspect the League for Socialized Medicine is not socialistic in the truly Marxian sense. The uncertainty and the wide spread experimentation of government administration in the United States has brought about a feeling of insecurity which has set in motion the same forces that have brought about Fascism in Europe. It is not necessary to look far for evidences of the manifestations of this most undesirable development in this country. We suspect the League for Socialized Medicine as evidence of this fascist trend in the United States.

It may be granted that matters of public health should be of primary interest to the general public and no objections are offered to magazine articles that discuss the various phases of medical practice. However, first of all, a physician who would criticize or who has an idea or a grievance should take his case before his colleagues, either in his county medical society or seek publication in the medical press. Reforms and progress in medicine,

in the final analysis, must come from within. Controversial topics and criticism should be encouraged in medical forums. "When men smile and agree, Progress weeps."

It is not enough that the medical profession stand by in an effort to maintain a position reactionary to change. The physician, who of all men, should be the most socially conscious, must bring clear vision to the issues of the present. If there is to be a new deal applied to medical service it must not be Fascist. It must be Humanitarian.

R.B.S.

Mr. A. D. Bauer, publisher of the JOURNAL for the past 20 years, died in Topeka at the age of 71 years on September 14. Mr. Bauer was a lovable character, a firm friend of the Kansas Medical Society, a contributor of many improvements to the JOURNAL, and his loss is deeply felt by the staff, and his other acquaintances of the Society.

A communication has been received from Dr. Arthur Hertzler, of Halstead, in connection with Dr. Frank Leslie Rector's "Cancer Survey of Kansas", published in the JOURNAL, and which reads as follows: "Your report by Dr. Rector does us an injustice. We have a deep therapy machine, the best money will buy, and have as operator, Dr. Herman Klopproth, lately of the University of Texas."

The Journal of the American Medical Association for August 25 contains certain interesting statistics as to the ratio of practicing physicians to population in the various states. The average shown for the entire country is one physician to every 814 people, the lowest ratio is in the District of Columbia with one to every 290 people, the highest ratio is in Mississippi with one to every 1,411 people, and Kansas has one to every 924 people. The ratio for Missouri is one to 684 people; Oklahoma, one to 1,063 people; Colorado, one to 598 people; and Nebraska, one to 810 people. Also, Kansas is listed as having 2,153 physicians in 1934, as against 2,168 in 1931.

RECENT MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D.

THYROIDECTOMY IN DIABETES MELLITUS

On the basis of some animal experimentation the writers of this paper persuaded a patient with severe diabetes to undergo a total thyroidectomy. They report the case in detail and their results. In their conclusion they feel that while the sugar tolerance was slightly increased, the myxedematous symptoms outweighed any benefit of increased tolerance. They state that a year after operation the patient reported by letter that he was comfortable taking one-half a grain of thyroid extract daily and 14 to 16 units of insulin daily.

Wilder, R. N., Foster, R. F., Pemberton, J. J.: *Endocrinology*, 18:445-461, (July-August) 1934.

THE OPTIC NERVE AND MYXEDEMA

These two writers review the accounts of optic atrophy associated with myxedema and they note that it is a very rare condition. They report in detail the case record and findings of a woman of 24 who showed the typical symptoms of myxedema along with a failure of vision. They administered thyroid and the vision improved. They stopped the thyroid medication and the vision again became poor. On readministering thyroid it again improved which the authors conclude is evidence of a very definite optic nerve disorder which they characterize as atrophy associated and due to myxedema.

Mussio-Fournier, J. C., Helguera, R. A.: *The Optic Nerve and Myxedema*, *Endocrinology*, 18:527-532, (July-August) 1934.

THE WASSERMANN-FAST PATIENT

According to Moore, the Wassermann reaction is merely expressive of a change in the patient's blood following an infection with the syphilitic virus. It is not a specific interaction of antigen and antibody. He defines it as a failure of the blood Wassermann to become consistently negative within six months in early syphilis or within a year in late syphilis when such cases are under intensive regular treatment. It is his opinion that in late syphilis after two years of the best routine treatment, the Wassermann reaction of the

blood may be disregarded providing the patient can receive careful physical examinations at short intervals thereafter. The clinical is far more important than the serological cure. Even marriage is not contraindicated after adequate antiluetic therapy, despite a persistently positive blood Wassermann.

Moore, J. E., *The Wassermann-Fast Patient*, *Yale Journal of Biology and Medicine*, 6:626-627, (July) 1934.

BEDSIDE DIAGNOSIS

The author of this article, George Blumer, is the author of the very well known and estimable work, *Bedside Diagnosis*. He makes what he calls some discursive remarks on bedside diagnosis, particularly taking up the disadvantages of specialism, the effects of indolence and the results of false emphasis. As all of this writer's work, this is an entertaining, interesting and instructive article, the thesis of which is that there is a major part to the art of medicine as well as an essential loyalty to the scientific aspect.

Blumer, George: *Some Discursive Remarks on Bedside Diagnosis*, *Yale Journal of Biology and Medicine*, 6:571-582, (July) 1934.

THE EFFECT OF ROENTGEN RAYS ON THE BRAIN

This investigator who does his work in Pavlo's laboratory in Leningrad could show no microscopical or chemical influence of the exposure of the brain to Roentgen rays. He tried, however, the conditioned reflex method by training a dog to certain conditioned reflexes and then exposing the brain to various dosages of *x-ray*. By this much more sensitive method he came to the conclusion that the brain is influenced and that there was a marked decrease of all the reflexes following the exposure. He believes that Roentgen rays do affect the activity of the cerebral hemispheres, apparently causing an inhibitory condition.

Nemenow, M. I.: *The Effect of Roentgen-ray Exposures of the Cerebral Cortex on the Activity of the Cerebral Hemispheres*, *Radiology*, 23:86-93, (July) 1934.

SODIUM CITRATE AND UNMODIFIED BLOOD TRANSFUSION

The author, Dr. Beck, who is the pathologist at the Stuart-Circle Hospital in Richmond, Virginia, abstracts about 150 articles dealing with transfusions. He

makes a table of statistics on citrate transfusion reaction and unmodified blood transfusion reaction covering a total of 17,002 transfusions. He gives a list of twenty-six causes of the reactions: the improper preparation of apparatus used, toxic substance present in new rubber tubing, length of time taken to introduce the blood, taking of food or fasting by the donor or recipient, the pre-transfusion percentage of hemoglobin of the patient, a pre-transfusion temperature of the patient, exposure of the blood to foreign substances, incompatibility of the white cells and the patient's serum, allergic phenomena in the recipient, systemic diseases in the recipient and the transmission of disease to the recipient. All of these causes and many others are carefully tabulated and analyzed with suggestions made as to methods of avoiding them.

Beck, R. C.: Sodium Citrate and Unmodified Blood Transfusion, *Southern Medicine and Surgery*, 96:255-266, (June) 1934.

SURGERY OF THE LARGE INTESTINE

Gibbon reports on fifty cases of surgical lesions of the large intestine, thirty-nine of which were carcinoma and eleven of which were benign lesions. He gives the type of operation, operative mortality and the end results. His conclusion is that the choice of an operative procedure for resection and anastomosis of the colon must depend upon the specific indications of individual patient, and the operating surgeon's judgment and experience, recognizing, however, that the multiple-stage operation has proven the safest of all these procedures.

Gibbon, J. W.: Surgery of the Large Intestine, *Southern Medicine and Surgery*, 96:319-325, (July) 1934.

PSYCHOLOGY AND MEDICINE

The author, W. R. Miles, is associated with the Department of Psychiatry and Mental Hygiene in the Yale University School of Medicine. His paper was read before the meeting of the association of the Yale Alumni in Medicine and makes the particular point that psychology and psychiatry are not the same thing in their relation to medicine. He points out that our whole dealings with the patient are one of psychology, namely that it is impossible to ask a horse to open its mouth

and stick out its tongue and that the chief difference between a physician and veterinarian is the matter of available psychology. He points out that whole problem of obtaining a history, making an examination and carrying out the instructions of the physician are one of psychology. On the other hand psychiatry is a study of the physical as well as the mental symptomatology of behavior defects in diseases while psychology has in its legitimate and undisputed territory, the traditional study of the elements of both normal and abnormal behavior, and that it is complimentary to psychiatry as well as to other branches of medicine.

Miles, W. R., *Psychology in Relation to Medicine*, *Yale Journal of Biology and Medicine*, 6:603-608, (July) 1934.

A CLINICAL SURVEY OF DEPRESSIVE STATES

Lewis, the writer of a long and extensive descriptive study of depression, is the Assistant Medical Officer of Maudsley Hospital in London, one of the best public mental hospitals of all England. He makes a very extensive review of some hundred pages on the various symptoms of depression and points out several findings divergent from the accepted view as presented in textbooks and monographs. The most important of these is the necessity for a more adequate differentiation of the types of depression, the rather frequent finding of paranoid delusions that occur in depression, the frequency of feelings of unreality and of compulsive symptoms. This paper is primarily a descriptive study of the depressions rather than any attempt to a dynamic point of view.

Lewis, A. J., *Melancholy: A Clinical Survey of Depressive States*, *Journal of Mental Science*, 80:277-378, (April) 1934.

FAT TOLERANCE TEST IN PITUITARY DISEASE

Goldzieher and Alperstein corroborate some previous work showing that the anterior lobe of the hypophysis discharges into circulation a hormone after the ingestion of a fatty meal which causes an increase in the acetone bodies of the blood. In a series of 109 cases, they determine a fat meal as a test of pituitary disease. This test meal consists of four ounces of heavy sweet cream, four ounces of milk and one ounce of butter and two slices of toast. As a result of this meal they then determine

the acetone bodies in the blood and in hypofunction of the anterior lobe, they discover an inadequate response to this test meal, including a hypofunction of this lobe. Following specific organotherapy in a few cases over a prolonged period of time, the normal physiological reaction was obtained.

Goldzieher, M. A., and Alperstein, D. P.: *The Fat Tolerance Test in Pituitary Disease*, *Endocrinology*, 18:505-512, (July-August) 1934.

GIGANTISM AND ACROMEGALY

Lackey publishes the complete case report with a roentgenogram of the skull and a picture of the patient, of a negro nineteen years of age, weighing 217 pounds and the height of 7 feet seven inches, with an average mentality. The patient shows in addition to his very unusual height, the features, both skeletal and of the soft tissues, of acromegaly. The findings are suggestive of a pituitary tumor. Gigantism and acromegaly are exceedingly rare in the negro race and this case is of special importance because of this reason.

Lackey, W. J.: *Gigantism and Acromegaly*, *Southern Medicine and Surgery*, 96:275-277, (June) 1934.

PHYSIOLOGY OF THE GALL-BLADDER

Leef, who is connected with the department of medicine at Stanford University School of Medicine, reports on an interesting experiment in which he takes a pair of patients whose gall-bladders have been filled with tetraiodo to the kitchen. There he permits one of them to eat and the other one to watch the eating procedure and smelling the appetizing food, with the idea of determining whether the psychic stimulation makes any effect on emptying the gall-bladder. In the general instructions for preparations for gall-bladder pictures, the patient is instructed to keep away from the smell of food or watching people eat. Leef's experiments fail to show any difference in those cases who have been in the kitchen and watched the eating procedure from those who had actually eaten. In other words there was no tendency to emptying the gall-bladder in the six cases in which he tried psychic stimulation from the sight of food.

Leef, E.: *Physiology of the Gall-Bladder: Cholecystography Shows No Psychic Emptying*, *Radiology* 23: 35, (July) 1934.

ANIMAL EXPERIMENTS WITH COLLOIDAL THORIUM

This experimenter was interested primarily in the lymphatic absorption of colloidal thorium, the drug that has recently been experimented with extensively in showing the vascular and lymphatic system for x-ray photography. This worker injected the lymphatic system of the abdomen to determine first the extent of the flow in the lymph system and also the amount of the absorption that took place. In the case of the intravenous injection he noticed degenerative changes in the liver. He stresses the importance of the intraperitoneal injection for the recognition of abdominal pathology.

Pomeranz, R.: *Animal Experiments with Colloidal Thorium: A Study in Lymphatic absorption*, *Radiology*, 23:51-59, (July) 1934.

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TREATMENT OF ENCEPHALITIS IN THE ST. LOUIS EPIDEMIC OF 1933

John W. Eschenbrenner, St. Louis (J.A.M.A.), presents the treatment and care developed during the observation of 348 cases of epidemic encephalitis at the St. Louis City Isolation Hospital. Being at a loss to supply any specific treatment, symptomatic treatment based on clinical experience with similar conditions was resorted to. In many of the patients, adults and children, who had mild symptoms, the course of the disease was short, there were almost no complications in these mild cases, and therefore little therapy was required. As is true in other contagious diseases and in neurologic conditions in which the patients are in stupor or coma and are sometimes incontinent, good specialized nursing care is important. Graduate nurses were therefore delegated to the care of these patients. All the patients were given bed rest, a soft diet and forced fluids. With the knowledge that in the acute stage of the disease there is an acute diffuse inflammatory reaction in the brain tissue and that the symptoms were probably due essentially to cerebral edema and increased intracranial pressure, the treatment instituted was designed to relieve this condition mechanically. This consisted in the use of spinal punctures and hypertonic dextrose solution intravenously. Retention of urine usually did not recur after one or two catheterizations. In the acute stage of the disease, bronchopneumonia was the most frequent complication and was treated according to the individual indications. The majority were given inhalations of a mixture of 30 per cent carbon dioxide in oxygen for ten minutes every two hours. Fifty per cent dextrose solution was given intravenously every six to twelve hours in an attempt to reduce the congestion of the lungs. Delirium tremens, another complication occurring during the acute stage of the disease and usually in the young men, responded readily to large regular doses of paraldehyde. Uremia was next to bronchopneumonia in incidence and seriousness. These patients were treated by forcing fluids by mouth and parenterally to the extent of 5,000 cc. in twenty-four hours. Some of the more severe cases were followed by a mild Parkinson's syndrome. For this phenobarbital was given, sometimes continued in fairly large doses.

UNIVERSITY OF KANSAS MEDICAL SCHOOL CLINIC

A Case of Pseudocyesis Associated With An Endocrine Imbalance

CLARENCE W. ERICKSON, M.D.
and
EDW. H. HASHINGER, M.D.*

Pseudocyesis, or false pregnancy, is most frequently encountered as women approach the menopause and is frequently associated with a disturbed mental plight. It is sometimes found in younger women, in single women harboring a fear of impregnation following illicit intercourse, or in young married women anxious to have children. Symptoms may be as multiple as those of actual pregnancy. They may be so misleading that unless the patient is examined thoroughly, the most competent practitioner may be misled. It is often necessary to conduct the examination under deep anaesthesia to secure adequate abdominal relaxation. Roentgenological studies of the abdomen and pelvis would show any well-developed fetal bony structure. The Aschheim—Zondek test, or one of its modifications, is now a simple procedure and may well be utilized in questionable early cases. Abdominal distention, common to almost every case, is usually caused by intestinal gas. Pelvic tumors or inflammatory masses may be the underlying cause, while obesity or ascites may incite the misleading chain of symptoms.

CASE REPORT

E. M. C., age 20, married white female, was seen in the Bell Memorial Hospital outpatient prenatal clinic on July 20, 1934. Because of her characteristic history and the exceptional abdominal findings she was sent into the obstetrical ward for observation and diagnosis.

Present Illness: Patient first missed her period about January 1, 1934. Two days later she started taking an ergot preparation but was unable to induce a flow. By the middle of February she was having frequent fainting attacks, spots before

her eyes and morning nausea. Simultaneously her husband was having attacks of nausea and diarrhea and they both thought they were suffering from food infection. She fell on some steps the first of March and since then has been having occasional severe pain at the tip of her sacrum. All this time she had noticed swelling in her ankles and a gradual increase in the size of her abdomen. Her weight at Christmas, 1933, had been 125 pounds and she had felt perfectly well. She weighed 174½ pounds on date of hospital admission seven months later. On April 16 she first felt movement on her abdomen, followed by pains which originated low in her back and radiated to her sides and front of abdomen, holding there for a few seconds. She soon vomited and called her family doctor. He gave her a hypodermic, elevated the foot of her bed and prescribed a meat-free diet. The condition was diagnosed as pregnancy with uremic poisoning. She spent the remainder of the month in bed. During this time she noted darkening pigment about her nipples and marked tingling of her breasts. On May 12 she had a slight bloody flow, scarcely saturating one pad and then stopped. The day following her abdomen was fuller and more tense, continuing very distended all of that month. Again on June 12 the same thing recurred, slight bleeding followed by increased abdominal distention. Ever since the middle of April she had felt movement in her abdomen every 5 to 10 minutes that were like a baby kicking. By early July distention became so great that she was unable to stoop over and tie her shoes. Her breasts became increasingly sore. She was able to be up working about the house until the morning of July 15, when suddenly she lost a gush of water, which she estimated to be about a pint. Black spots were in front of her eyes so she went to bed. Early that afternoon she had a watery flow that saturated the bed and ruined the mattress. About 3:30 p.m. she began to have pains in her back, over 30 minutes apart, lasting 30 to 40 seconds and not stopping until 3:00 a. m. They began again at 9:30 the next morning and stopped at 12:30 noon. On the 18th she had "bearing-down pains". She rigged a sheet to the foot of the bed and pulled vigorously

*Department of Internal Medicine.

every 5 or 10 minutes for over four hours. She finally became tired and went to sleep. She complained of being very exhausted when she came to the hospital.

Family History: Father died of tuberculosis at age of 23. Her mother is living and well and weighs 125 pounds. There are no chronic diseases in the family nor any similar tendency.

Past History: Patient had usual childhood diseases. In addition she had typhoid fever at 10 years for which she remained in bed five months. On five different occasions she had pneumonia. Appendix was removed in 1932 at Cleveland City Hospital. During past few months patient has noted marked shortness of breath following exertion and has had a persistent swelling of ankles and arms. She has been constipated for years. Since December, 1933, she has had some bleeding from hemorrhoids. A review of the gastrointestinal, cardio-respiratory, urinary, neuro-muscular and metabolic history is otherwise essentially negative.

Her menses have been regular since onset at 11 years, every 28 days, duration three days until beginning of present history. No pains, cramps or passing of clots. Flow has always been somewhat scanty. No previous pregnancies. Married since 18 years old.

Physical Examination: Patient is an obese white female, appearing to be 20 years of age, not in any distress. Features are inclined to be coarse. Lips are thick. Hair is fine and silky and of normal distribution. Abdomen is markedly distended and tender to palpation. There is an accumulation of fat symmetrically distributed about the shoulders, back and buttocks.

Eyes: Pupils are equal and regular; reacting to light and accommodation. No palsies, nystagmus, exophthalmos, lid lag, conjunctival pallor or petechiae in evidence.

Ears, Nose and Throat: Essentially negative.

Neck: No cervical adenopathy. No palpable enlargement of thyroid.

Chest: Essentially negative. Breasts are full, soft and tender. Areolae are of brownish pigmentation. The Glands of Montgomery are moderately enlarged.

Heart: Not enlarged. There is a soft blowing presystolic murmur heard at mitral area, not transmitted, disappearing in erect position. Pulse 72. Blood pressure 90/52.

Abdomen: Contour is very distended. There is a band-like constriction extending horizontally across the abdomen at the level of the umbilicus. Striae are present along both sides of the abdominal wall. There is a tightly stretched scar at McBurney's point. Marked tenderness is elicited on light palpation and not increased on deep pressure. No definite mass can be outlined. No fetal heart sounds are audible.

Extremities: There is a slight increase in size of extremities, but not in proportion to the increase in size of the abdomen. Deep reflexes are sluggish throughout. No pathological reflexes are present.

Back: Tenderness is marked along lumbar and sacral regions. Pads of felt are present along both flanks and lumbar regions and are quite tender. The patient finds it very uncomfortable to lie on her back.

Pelvis: Routine pelvic examination was unsatisfactory. Under deep anaesthesia, the abdominal distention seemed to vanish. The wall felt flat and the aortic pulsations and the vertebral column was easy to palpate. The abdominal wall when held up was estimated to be nearly two inches in thickness. The uterus was too small to palpate abdominally. By vaginal examination the pelvis was negative. The uterus was small, non-pregnant and in good position.

Laboratory examination: Urine negative. 5,700 WBC, 3,945,000 RBC, 73 per cent hemoglobin, 230,000 platelets. Wassermann and Kahn negative. Basal metabolism plus 2 and plus 6. The Friedmann modification of the Aschheim-Zondek test negative.

The patient was rather depressed when told that she was not pregnant. When she told her husband of the turn of events he proceeded to get gloriously drunk, tore up the baby clothes and the house in general and left for parts unknown. We were later informed by the patient that she had a girl friend living close by who delivered two days before the patient tried out the bed-

sheet manoeuvres. The girl had been telling her of all her own symptoms as they progressed throughout the course of the pregnancy. It seemed only natural since she had been told she was pregnant that she should have each complaint in turn. She had actually seen her friend employ the bed sheets to aid the course of labor.

The medical department was called in consultation and a diagnosis was made of progressive pluriglandular insufficiency and psychoneurosis, hysterical type. She was placed on large doses of pituitrin and thyroid extract, given a low caloric diet, and sent to the out-patient department for further observation.

—R—

Albert D. Kaiser's, Rochester, N. Y. (J.A.M.A.), statistical analysis of the various manifestations noted in more than 1,200 rheumatic children reveals a variety of clinical symptoms. Some children have six or more rheumatic symptoms, while others show only a few definite complaints. Such rheumatic manifestations as pancarditis and rheumatic nodules denote a serious form of rheumatic infection, while the complaints of tonsillitis, pallor and anorexia may be an indication of less serious rheumatic infection. Pancarditis is the most common major complaint in children stigmatized with rheumatic disease. Acute arthritis or rheumatic fever is the second most common rheumatic manifestation. Chorea due to a rheumatic infection was found to occur in 29 per cent of the group. Muscular rheumatism or "growing pains," is a rheumatic manifestation subjected to much criticism. That such symptoms do occur in rheumatic persons is now quite generally recognized. In the reported group 18 per cent of the children gave evidence of chronic pains in the muscles. Rheumatic pneumonia and rheumatic pleurisy are perhaps not always recognized and for that reason the incidence is low. Erythema nodosum was diagnosed in twenty-four cases. Rheumatic nodules and purpura were found only a few times. Rheumatic infection occurs at all ages of childhood but most frequently between the ages of 8 and 10. It occurs most frequently in Rochester during the late winter and spring months. No social or economic factors play any significant part in the control of this disease. Rheumatic infection is essentially a chronic disease and tends to recur in more than 50 per cent of the cases. Recurrences of the disease are much less likely to develop five years or more after the initial infection. Rheumatic infection occurs slightly more often in children whose tonsils have not been removed at the time of the initial attack. The mortality rate is nearly 50 per cent less in children whose tonsils had been removed at the time of the initial attack. Recurrent attacks were not lessened in tonsillectomized children or in those who were tonsillectomized after the initial attack. Hymolytic streptococcus nucleoprotein skin tests were positive in 75 per cent of the rheumatic children as compared to 32 per cent of nonrheumatic children. Tonsillitis or sore throat was the preceding infection in 59 per cent of the rheumatic children. The most severe cases of rheumatic infection followed attacks of tonsillitis and dental infections. Respiratory infections are an important factor in causing recrudescences of the rheumatic phenomena. One may assume the existence of some constitutional susceptibility to rheumatism but no proof of it is available.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of
The Kansas Tuberculosis and Health Association

Clinical Progress in Tuberculosis

The Clinical Section of the 30th Annual Meeting of the National Tuberculosis Association was distinguished by the presentation of an unusual number of significant papers. Dr. Iago Galdston, who herein presents a summary of the papers, properly complained in his transmitting note, that he was, with keen regrets, obliged to gloss over much valuable material. For a detailed and conclusive presentation of the Clinical Section, the reader must be referred to the Transaction of the National Tuberculosis Association, which will be published in December, 1934.

Papers presented fall under three headings: diagnosis, treatment, and epidemiology.

DIAGNOSIS

Under diagnosis undoubtedly the outstanding contribution was made by Dr. Esmond R. Long, of Philadelphia. On behalf of his co-workers and himself, he reported on the production of a standard tuberculin which will make possible a heretofore unachievable uniformity of data bearing on the epidemiology of tuberculosis.

Many workers have shown that there are variations in what might be termed the potencies of different tuberculins used in tuberculin testing. This variation in potency or provocativeness is unquestionably responsible for a substantial part of the difference in the reported variations of the prevalence of tuberculosis infection in comparable ages in different parts of the country. Unless the foundation of our tuberculin testing is sound, unless we have a uniform tuberculin and a uniform technique for testing, we cannot expect to achieve an intelligent epidemiology of tuberculosis. We cannot know what headway we are making; we are not able to determine whether tuberculosis infection is becoming more or less widespread or remaining stationary. According to Dr. Long, it is now possible to produce a substance, a purified protein derivative from tuberculin, which has a consistency not

attainable before. This substance has a specificity, a high potency, and a uniformity of strength which will well serve as a solid foundation for tuberculin testing. We therefore now have in diagnosis a dependable means for the "census taking of the enemy."

TREATMENT

One was much impressed with the rapid and sound progress made by surgery. Undoubtedly, the application of thoracic surgery in the treatment of tuberculosis is becoming ever more widespread, largely because of the general advance made in general surgery in recent years. This progress includes the development of ingenious instruments, the greater utilization of electrical currents of various sorts, the advancement made in local, regional and general anesthetics, and in the better care we can give, both preoperative and postoperative, to our patients.

Thoracic surgery in the treatment of tuberculosis is not new. Forlanini, Jacobus, Lilienthal and others urged its value decades ago. That it has come to the forefront today is due to the fact that in surgery, as in medicine as a whole, every scientific advance is "grist to the mill."

Most impressive were the reports showing the value of pneumolysis, the severing of adhesions which interfere with effective collapse.

Naturally, the clinicians are keeping a close check on the surgeons, serving to keep in restraint excesses of enthusiasm. The paper by Dr. J. W. Cutler, of Philadelphia, in which he presented the clinical analysis of 200 consecutive cases, with a description of the technique and the instruments used, was particularly interesting.

EPIDEMIOLOGY

One very interesting and suggestive report is that of a study on the relationship of hypersensitiveness to resistance, made on experimental animals (guinea pigs) in the Saranac Laboratory. This study, which we hope will be carried further, deserves the most careful scrutiny by everyone interested in the immunology of tuberculosis. It promises to have a significant bearing on that provocative problem as to whether infection with the tubercle

bacillus confers added resistance to tuberculosis.

In this study, guinea pigs were infected with the tubercle bacillus, but so treated with tuberculin as not to be permitted to develop a hypersensitiveness. (That they were not hypersensitive was proved by the fact that they never developed a positive tuberculin reaction.) These guinea pigs withstood their infections better than those animals which were similarly infected but which were allowed to develop tuberculin hypersensitiveness.

From several quarters, too, there came epidemiologic notations on the resistance of the Negro to tuberculosis. The general impression produced by the reports was that the Negro has no particular demonstrable susceptibility to tuberculosis, which singles his reaction to the disease as against the white man's. On the contrary, the Negro's response to treatment is in every respect as good as that of the white race.

Dr. Dochez's discourse on "Acute Infections of the Upper Respiratory Tract," reports on studies of the influence of vitamin C on experimental tuberculosis in guinea pigs, Dr. Richard M. McKean's and Dr. Gordon B. Myers' study on "Tuberculosis and Diabetes," have important bearings on the epidemiology of tuberculosis, in that they point to the importance of non-specific, that is, nutritional resistance to tuberculosis. Astutely it was pointed out by one discussant that if the diabetic is particularly susceptible to tuberculosis because of a disturbed nutrition, the individual whose nutrition is disturbed not by lack of insulin but by improper or inadequate intake of nutriment (whatever be the cause of that—poverty, ignorance, flaming youth, etc.), may similarly prove to be especially subject to tuberculosis.

—R—

Sweets in the Diet, Especially of Children—The Committee on Foods reports that although sweets are wholesome and valuable foods when given their proper place in the balanced diet, they contribute few or none of the structural components required for good nutrition. Common concentrated sweets used to excess are harmful, especially in the case of children, so far as they impair the appetite for other highly necessary foods and lead to a reduced intake of milk, eggs, fruits, vegetables, meat and cereals. Food advertising that obscures the facts of good nutrition should be condemned. (Jour. A.M.A., July 14, 1934, p. 110).

THE PHYSICIAN'S LIBRARY

PRACTICAL MEDICINE SERIES, 1933—Neurology and Psychiatry: **NEUROLOGY** edited by Peter Bassoe, M.D., Clinical Professor of Neurology, Rush Medical College of the University of Chicago. **PSYCHIATRY** edited by Franklin G. Ebaugh, A.B., M.D., Director, University of Colorado Psychopathic Hospital; Professor of Psychiatry, University of Colorado School of Medicine; Director, Division of Psychiatric Education, National Committee for Mental Hygiene. The Year Book Publishers, Inc., Chicago.

This book, edited by Peter Bassoe and Franklin Ebaugh, gives a complete synopsis of the work done in neurology and psychiatry during 1933. Quite a bit of work was reviewed on multiple sclerosis, brain tumor and syphilitic conditions of the brain and spine. It gives a very fine chapter on work done in endocrinology during the past year. Dr. Ebaugh as usual covers the psychiatric end very carefully.—C.K.S.

INTERNATIONAL CLINICS: June 1934. A quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest. By leading members of the medical profession throughout the world. Edited by Louis Hamman, M.D., Visiting Physician, Johns Hopkins Hospital, Baltimore, Md. Volume II. Forty-Fourth Series, 1934. J. B. Lippincott Company. Price \$3.00 per volume.

A discussion of generalized edema occurring in disease of the intestinal tract is presented by Warfield T. Longcope. The mechanism of the production of edema is thoroughly covered and cases reported.

Miss Thelma Lovett's discussion of pathogenesis of anterior poliomyelitis is pertinent but no definite conclusions are drawn as to the manner of invasion. Hyman L. Goldstein presents a new form of hemorrhagic disease. From the University of Freiberg, Germany, comes an excellent article on shock by Professor Rehn; a discussion of the interrelationship of the anterior pituitary and thyroid or carbohydrate metabolism of the liver. Dr. Erich Schneider discusses thyrogenic liver damage and gives his method of preparing toxic thyroid patients for operation by counteracting the liver damage.

Collapse therapy in pulmonary tuberculosis is discussed by Dr. Ralph C. and Ray

W. Matson. The surgical treatment of peptic ulcer is presented by Drs. Held and Goldbloom. Drs. Reinhoff and Baker attempt to straighten out some of the confusion that exists between internists and surgeons on the treatment of peptic ulcers. Thrombocytopenia is discussed by Drs. Payne and Whitehead and the literature of the past fifteen years on this subject is summarized. A great value to industrial surgeons is the article by Dr. McBride on estimation of the extent of disability in the injured. A discussion of the crippled hand by Dr. Cohn stresses the great improvement of case diagnosis in all hand injuries.

From China Dr. Eastman presents an excellent summary of the toxemias of later pregnancy.

A discussion of present day immunization against diphtheria, scarlet fever, whooping cough, and measles is given by Dr. Lawson Wilkins; particularly valuable is his up-to-the-minute evaluation of these procedures.—F.C.T.

A PRIMER FOR DIABETIC PATIENTS, A Brief Outline of the Treatment of Diabetes with Diet and Insulin, Including Directions and Charts for the Use of Physicians in Planning Diet Prescriptions: By Russell M. Wilder, M.D., Professor and Chief of the Department of Medicine of The Mayo Foundation, University of Minnesota; Head of Section on General Metabolism, Division of Medicine, The Mayo Clinic. Fifth Edition, Reset. 172 pages. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$1.75 net.

This fifth edition of the Primer contains simplified instructions for the use of insulin and for the planning of diets to meet all nutritional needs.

The Primer, from its first edition, has been intended to be a guide for both patient and physician. It has been written in nontechnical language, with medical terminology largely omitted, nevertheless the assistance of a physician will be required for its proper interpretation. The book is addressed, as before, not to the solitary patient but to the patient who is working out a life complicated with diabetes, under the guidance of his family doctor.

It is the distillate of Doctor Wood's and his associates' experience in the treatment of more than 8,000 diabetic patients and contains some very useful recipes, supplied for the most part by Miss Mary A. Foley, dietitian-in-chief of the Kahler

Hospital Group, Rochester, Minn. The Primer also contains some simplified diet instructions incorporated for the first time in this edition. The New Food Nomogram is a contribution of Dr. Walter M. Boothby and Dr. Joseph Berkson.—J.G.S.

DISEASES OF THE EYE: by Charles A. May, M.D., Director and Attending Surgeon (1916-26) Eye Service, Belvue Hospital, New York; Consulting Physician Ophthalmology, Mt. Sinai Hospital, Belvue Hospital, French Hospital and Monmouth Memorial Hospital, New York; formerly chief of Clinic and Instructor in Ophthalmology of College of Physicians and Surgeons, Medical Department, Columbia University, New York. Fourteenth Edition. 478 pages. Published by William Wood & Company, Baltimore. Price \$4.00.

This book needs no introduction to most of us. Every doctor's library should contain this book as it is a very complete outline of all conditions of the eye. This last edition brings the book up to date, giving some of the newer treatments and diagnostic methods. It retains its many clear and easily understandable illustrations.

If a general man were to have only one book on the eye this certainly would be one of the most practical because he can look up nearly every condition he desires and obtain the salient points.—H.W.P.

SURGICAL CLINICS OF NORTH AMERICA: Issued serially, one number every other month. Volume 14, Number 4. Chicago Number—August, 1934. 288 pages with 85 illustrations. Per clinic year February, 1934, to December, 1934. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1934.

In this Chicago number many instructive clinics are presented.

A symposium on plastic surgery covers various phases of plastic work. Axillary scars from burns are nicely handled by Dr. Koch with the Z incision with which he utilizes all the available skin to the best advantage. A unique handling of the hypospadias case is described by Dr. Gatewood and the transplantation of toes in the reconstruction of fingers by Doctors Carl and Wm. Beck. Five illustrative cases of pulmonary tuberculosis and their surgical treatment are presented in a clinic of Doctors Carl Hedblom and William Van Hazel.

Dr. Kellogg Speed has two cases of intrahepatic gallbladder admirably handled. Dr. M. Whorter gives some valuable points in connection with gallbladder surgery. The exact technic of E. Willys Andrews imbrication method for inguinal

hernia is described in detail and well illustrated by Dr. Edmund Andrews. The use of distilled water in dissolving kidney stones is discussed by Dr. Oscar E. Nadeau and a case so treated successfully is presented. A symposium on peptic ulcer giving the most recent advances in treatment concludes this interesting volume.—M.B. M.

MODERN DRUG ENCYCLOPEDIA AND THERAPEUTIC GUIDE. A presentation of 8,160 modern, non-pharmacoepal, medicinal preparations, comprising: 1,878 drugs and chemicals, 535 biological, 860 endocrines, 1,563 ampule medicaments, 209 medical foods, 129 mineral waters, 2,344 individual and group allergens and 642 miscellaneous products, by Jacob Gutman, M.D., Phar. D., F.A.C.P. For the use of Physicians, Dentists, Pharmacists, and medical students. Paul B. Hoeber, Inc. New York. Price \$7.50.

This treatise on drugs is a very fine reference book, takes up all the non-pharmacoepal preparations put out by the various and sundry houses, gives their contents, actions, and doses. The last part of the book takes up various diseases and gives the therapeutic index of what drugs are used in those diseases.—C.K.S.

MODERN CLINICAL SYPHILOLOGY: by John H. Stokes, M.D. Duhring Professor of Dermatology and Syphilology in the School of Medicine, University of Pennsylvania; Member, Commission on Syphilis and Cognate Diseases, League of Nations Health Organization, etc. Second edition revised and entirely reset. 973 Illustrations and Text Figures. W. B. Saunders Company, Philadelphia and London. Price \$12.00.

This edition is the outgrowth of experience in book preparation. No matter how complete the first edition of Modern Clinical Syphilology seemed at the time of its appearance it cannot be compared to the second edition. In this work 240 pages have been added as well as 207 new illustrations and figures. There has been a new arrangement of material which has meant a revision and rewriting of whole chapters.

The book is written in the free and readable style that has come from the pen of but few medical writers. This quality makes the contents approachable at any hour and permits of extended and enjoyable sessions. From the first page to the very last this graceful literary style holds out in all its charm. Added to these features the author has presented to the physician probably the most complete and useful treatise on the most treated and least generally understood of the maladies of man.

It is quite impossible to enumerate and discuss important and outstanding valuable features of the contents as one could neither begin nor stop. The book will pay for itself many times over in information as well as in enjoyable reading. Truly it should be in the library of every studious physician.—A.J.B.

A TEXTBOOK OF GYNECOLOGY: by Arthur Hale Curtis, M.D., Professor and Head of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of Staff and Chief of the Gynecological Service, Passavant, Memorial Hospital, Chicago. Second edition, reset. 493 Pages with 300 original illustrations, chiefly by Tom Jones. Philadelphia and London: W. B. Saunders Company, 1934. Cloth, \$6.00 net.

The second edition of "Textbook of Gynecology" by Dr. A. H. Curtis is an excellent enlargement of the first edition with the inclusion of a certain amount of new material that has been stressed in the past four years. It is excellently and simply written, very well illustrated and as the author states gives mainly the details and the experiences of one man and his department in the diagnosis and treatments of gynecological conditions.

The author stresses a complete and painstaking history in the more evasive complaints in reference to the reproductive tract, with the remark that many cases are improperly diagnosed because of the misinterpretations of the history and the indefiniteness of the pelvic examination. It is interesting to note in the chapter on the endocrine system that the author states the benefit derived from the new endocrine preparations are problematical (female sex hormone of the ovary and luteinizing hormone of the anterior pituitary) at the present writing.

I can heartily recommend this textbook to anyone who is interested in medicine, regardless of the specialty and feel that they will be amply repaid for the time consumed in considering it thoroughly.—L.R.P.

MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 17, Number 6. Chicago Number—May 1934. INDEX VOLUME. Octavo of 266 pages with 38 illustrations. Per clinic year July 1933 to May 1934. Paper \$12.00; Cloth, \$16.00 net. Philadelphia and London. W. B. Saunders Company, 1934.

Dr. Arthur Elliott gives a clinic on epilepsy tarda in which he discusses cases of epilepsy beginning in the late years of life,

giving their causes and method of treatment. Dr. George Hall has a clinic on narcolepsy, a very interesting article because this condition has been seen by many physicians and not recognized. Drs. Geza de Takats and G. Karl Fenn have a clinic on four diabetic cases and the effect of operation on their sugar tolerance. This article makes us wonder how much we really know about diabetes. Dr. Sidney A. Portis gives a clinic on the medical management of pre-operative and postoperative gall-bladder disease with a report of three cases which is very interesting and instructive. Dr. Barborka gives a very complete diet list in case of nephrosis which should be very valuable to any practicing physician. Dr. Henry T. Ricketts reports five cases of toxic necrosis of the liver due to cinchophen and discusses the cases in detail.—C.K.S.

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Announcements

The Quinton-Duffens Optical Company advertisement in this issue of the Journal announces a new office of the firm at Salina occasioned by purchase of the Riggs Optical Company office at that place. They now have offices at Topeka, Hutchinson, and Salina.

New advertisers in the October Journal are as follows: Corn Products Company of New York; Smith-Dorsey Company of Lincoln, Nebraska; The Oklahoma City Clinical Society, Oklahoma City, Oklahoma, and McBride Orthopedic Clinic & The Reconstruction Hospital of Oklahoma City, Oklahoma.

The Oklahoma City Clinical Society will hold its fifth annual fall conference at Oklahoma City, Oklahoma, on October 29 to November 1. Sixteen prominent lecturers are to appear on a program consisting of general assemblies, postgraduate courses, round table luncheons, and evening symposia. A list of speakers and other information are shown in an advertisement in this issue.

The Fort Hays Kansas State College Psychological Clinic announces a series of evening seminars on psychotherapeutic techniques to be held at Fort Hays on October 23, November 6, November 20 and December 4.

The Radiological Society of North America will hold its next Annual Meeting at the Hotel Peabody, Memphis, Tennessee, December 3-7, 1934. The Medical Profession is cordially invited to attend. Further information may be obtained by addressing the Secretary-Treasurer, Dr. Donald S. Childs, 607 Medical Arts Building, Syracuse, New York.

The Omaha Mid-West Clinical Society will hold its annual meeting at Omaha, Nebraska, October 29 to November 2, inclusive.

The American College of Surgeons hold their next meeting at Boston, October 15 to October 19, inclusive.

The Inter-State Postgraduate Medical Association of North America meet at Philadelphia, November 5 to November 9, inclusive.

COUNTY SOCIETY NEWS

GOLDEN BELT MEDICAL SOCIETY

The Golden Belt Medical Society will hold its next meeting at the Clayton Hotel, Salina, on October 11. Doctors E. G. Padfield, Porter Brown, Harold Neptune, and J. W. Neptune will appear on the program, the meeting will open at 3:00 p.m., and a dinner will be served at 7:00 p.m.

CLAY AND GEARY COUNTY MEDICAL SOCIETIES

The members of the Clay County Medical Society were dinner guests of Doctors W. A. Carr and W. A. Smiley at the Junction City Country Club on September 12. Guest speakers on the program were Dr. J. L. Lattimore who presented a paper on "Fever Determination", and Dr. Earle G. Brown who gave a paper on "Coronary Thrombosis." Also, a considerable number of Geary County members attended.

L. S. STEADMAN, M.D., Secy.

BROWN COUNTY MEDICAL SOCIETY

The Brown County Medical Society met in the office of its secretary on August 31. Dr. Paul E. Conrad, president, gave a report concerning a meeting with the Richardson County, Nebraska, Medical Society. Doctors R. M. Wyatt, of Morrill, and Van C. Van Voorhis, of Robinson, were approved for membership. Dr. W. G. Emery, on behalf of the society, presented Dr. R. J. Portman with a sterling silver set as a token of esteem and appreciation. The occasion being that Dr. Portman is moving from Hiawatha to Antigo, Wisconsin.

R. T. NICHOLS, M.D., Secy.

HARVEY COUNTY MEDICAL SOCIETY

The Harvey County Medical Society met for a dinner meeting at the Harvey House, Newton, 7:00 p.m., on September 3. Twenty members and one guest were present, most of them staying for the business and scientific meeting afterward.

Three new members were admitted to the society, having been previously approved by the board of censors. These are Wendell M. Tate, Floyd W. Hatton, and Ralph Robert Melton, all resident physicians at the Halstead Hospital.

A letter from Dr. R. G. Leland, Director, American Bureau of Medical Economics, was read in which he asked the percentage of people in Harvey County not receiving medical care, and the reason. After discussion, the general opinion was that all but 2 or 3 per cent were receiving necessary aid, and that these few were at fault themselves rather than through any fault of the profession. An answer to that effect was sent to Dr. Leland.

The secretary reported that a copy of the report sent by Dr. Clifton Hall to the state board of health in connection with the work done in Harvey County by the Henrietta Brown Tuberculosis Research had been received, and the conclusions of this report were read.

A letter from the county poor commissioner was read in which the society was again asked to go on record to accept 50 per cent of the regular schedule of fees from patients who are now gradually being transferred from complete county aid to their family physicians. The letter was handed to a committee appointed some months ago to study the poor situation, with the request that they prepare a resolution or answer expressing willingness to cooperate with the commissioner in making the adjustment.

The scientific program followed. Dr. H. M. Glover read an interesting paper on "Anemias of Pregnancy" which was followed by a good discussion. Dr. E. E. Peterson read a paper on "The Motor Paralysis of the Larynx" which was also very interesting, and well discussed.

A. G. ISAAC, M.D., Secy.

SOUTHEAST KANSAS MEDICAL SOCIETY

The Southeast Kansas Medical Society held a dinner meeting at the Tioga Hotel, Chanute, 6:30 p.m., on September 13 with an attendance of approximately one hundred twenty-five members and guests.

The following guest speakers and subjects offered an interesting program: Dr. C. C. Nesselrode, of Kansas City, "The Cancer Problem"; Dr. H. S. Snyder, of Winfield, "Spinal Anesthesia"; Dr. W. M. Mills, of Topeka, "Treatment of Lung Abscess"; Dr. W. F. Bernstorff, of Pratt, "Treatment of Tetanus"; Dr. V. E. Chesky, of Halstead, "The Goiter Heart"; and Dr. N. E. Melencamp, of

Dodge City, "Use of Iodine in Thyroid Disease".

Dr. J. F. Hassig of Kansas City, and Dr. H. N. Tihen of Wichita, and Dr. E. C. Duncan of Fredonia were among other guests present.

JOHN N. SHERMAN, M.D., Secy.

—————R—————

PERSONALS

Topeka: Dr. J. F. Casto, assistant surgeon at the Santa Fe Hospital, and Miss Lorane Carder, of Lawrence, were married on September 9.

Manhattan: Dr. J. D. Colt, Senior, was married September 3 to Miss May Miles, of Manhattan. Miss Miles has been affiliated with the Extension Department of Kansas State College.

Atchison: Dr. and Mrs. W. F. Smith returned September 9 from an automobile trip to Quebec and the Atlantic Coast.

Topeka: Dr. C. H. Kinnaman attended the meeting of the American Public Health Association in Pasadena, California, on September 3-6.

Hiawatha: Dr. R. J. Portman and family have recently moved to Antigo, Wisconsin.

Topeka: Dr. Clifton Hall, director of the Henrietta Brown Tuberculosis Research, is now located in Topeka.

Hiawatha: The Brown County Medical Society recently held its annual picnic at Sycamore Springs. Members and guests present were as follows: Dr. and Mrs. Paul Conrad, Dr. and Mrs. W. G. Emery, Gordon Emery, Dr. and Mrs. R. T. Nichols, Dr. and Mrs. L. C. Edmonds, Dr. and Mrs. J. D. Bowen, Dr. and Mrs. J. L. McEwen, Dr. and Mrs. S. M. Hibbard, Dr. and Mrs. Clement Rucker, Dr. G. L. Teall, Dr. and Mrs. R. M. Wyatt, Dr. and Mrs. S. D. Cowan, Dr. and Mrs. C. L. Hustead and children, Dr. and Mrs. C. F. Lange, Dr. and Mrs. J. C. Gillespie, Miss Mathewson, and Miss Duehn.

Ottawa: Dr. Jack B. Davis, son of Doctors George W. and Josaphyne Eshom-Davis, completed his internship at St.

Margaret's Hospital, Kansas City, on July 1, and is now assistant in surgical pathology at Yale University School of Medicine Hospital, New Haven, Connecticut. Dr. Davis was married to Miss Ruth Bonderson, of Kansas City, Missouri, immediately following graduation, and she is also employed at the same hospital.

Atchison: Dr. Virgil Morrison, and Mrs. Louise Sheeks, of Kansas City, Missouri, were married September 4 at Liberty, Missouri.

Topeka: Dr. Earle G. Brown was a guest speaker of the Rocky Mountain Tuberculosis Conference held in Colorado Springs, Colorado, on September 17-19. His subject was "The Progress in Tuberculosis Control in Kansas."

Clay Center: Dr. X. Olsen, formerly of Clay Center and now located in San Bernardino, California, is visiting relatives in Clay County.



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BIRTHS

Arkansas City: Dr. and Mrs. E. Harry Clayton, August 3, 1934; a son, James Harry.

Clay Center: Dr. and Mrs. G. B. McIlvain, July 26, 1934; a daughter, Alice Helen.

Kansas City: Dr. and Mrs. J. M. Nason, July 16, 1934; a son, Courtney Harold.

Kansas City: Dr. and Mrs. Frederick N. Phillips, August 8, 1934; a son, Frederick.

Lindsborg: Dr. and Mrs. William F. Lynn, August 24, 1934; a daughter, Mary Frances.

Newton: Dr. and Mrs. James A. Wheeler, August 30, 1934; a daughter, Mary Carolyn.

Pratt: Dr. and Mrs. Francis A. Thorpe, July 31, 1934; a son, Stephen Francis.

Waverly: Dr. and Mrs. Henry M. Benning, August 8, 1934; a son, Frederic Nelson.

DEATH NOTICES

CASSIDY, GEORGE ALVIN, formerly of Manhattan, 73 years of age, died at Fremont, Nebraska, in July. He was a graduate of McGill Medical College and College of Physicians and Surgeons, Ontario, Canada, in 1886, and had been a member of the Society.

HEATH, JOHNSON FRANK, of LaHarpe, 65 years of age, died August 30. He was a graduate of Kansas City University Medical College, and was not a member of the Society.

STOCKS, CHESTER LESLIE, of Bushong, 66 years of age, died August 3 of heat stroke and diabetes mellitus. He was a graduate of Kansas City University Medical College in 1896, and was a member of the Society.

VAN PELT, LEVI A., of Paola, 70 years of age, died September 11. He was a graduate of Medico-Chirurgical College of Kansas City in 1900, and was not a member of the Society.

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TRUTH ABOUT MEDICINES

In addition to the articles enumerated in our letter of July 28 the following have been accepted:

Abbott Laboratories—Ophthalmic Ointment Butyn 2 per cent and Metaphen 1:10,000.

Don Baxter Intravenous Products Corporation—Dextrose Solutions $2\frac{1}{2}$ per cent, 5 per cent, $7\frac{1}{2}$ per cent, 10 per cent and 25 per cent in half-size vacoliter containers.

Dextrose $2\frac{1}{2}$ per cent, 5 per cent, $7\frac{1}{2}$ per cent and 10 per cent in physiological sodium chloride solution in half-size vacoliter containers.

Cheplin Biological Laboratories, Inc. Cheplin's Ampules Dextrose (d-Glucose) U.S.P., 50 per cent, 50 cc. (Buffered).

Cheplin's Ampules Dextrose (d-Glucose) U.S.P., 50 per cent, 50 cc. (Unbuffered).

Cheplin's Ampules Dextrose (d-Glucose) U.S.P., 10 Gm., 20 cc. (Buffered).

Cheplin's Ampules Dextrose (d-Glucose) U.S.P., 50 Gm., 100 cc. (Buffered).

Cheplin's Ampules Dextrose (d-Glucose) U.S.P., 50 Gm., 100 cc. (Unbuffered).

Eli Lilly & Company—Diphtheria Toxoid, Alum Precipitated (Refined)—Lilly.

Parke, Davis & Co.—Normal Horse Serum—P.D. & Co., one 1 cc. rubber stoppered vial packages.

Rabies Vaccine (Cumming), seven vial packages.

Scarlet Fever Streptococcus Toxin for the Skin Test—P.D. & Co., one 10 cc. vial package.

Reinschild Chemical Co.—Agar-Agar Shreds.

Frederick Stearns & Co.—Neo-Synephrin Hydrochloride Emulsion (Aromatic) Procaine-Neo-Synephrin Hydrochloride Hypodermic Tablets.

E. R. Squibb & Sons—Refined Diphtheria Toxoid Alum Precipitated—Squibb, ten 0.5 cc. vial packages.

The following product has been accepted for inclusion in the List of Articles and Brands Accepted by the Council But Not Described in N.N.R. (New and Nonofficial Remedies, 1934, p. 439):

Don Baxter Intravenous Products Corp.—Physiological Sodium Chloride Solution in half-size vacoliter containers.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Carotene-SMACO—A mixture of crystalline isomeric hydrocarbons extracted from carrots. The mixture contains approximately one part of a-carotene, which is reported to be optically active, $[\alpha]_{20}^{20}/\text{Cd}$ in benzene=380, and four parts of B-carotene, which is optically inactive. The evidence indicates that carotene is converted in the liver into vitamin A. Carotene therefore has actions similar to those of vitamin A. Evidence is not yet available on which to base an exact conversion factor of carotene in terms of clinical vitamin A effect. As cases of carotenemia have arisen from overdosage, the Council warns against the administration of too large doses of carotene. S.M.A. Corporation, Cleveland, Ohio.



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Superintendent

SMACO Carotene in Oil—A solution containing 0.3 per cent of carotene—SMACO in cottonseed oil. It is biologically assayed to have in each gram a vitamin A potency of not less than 7,500 units, U.S.P. X-Revised, 1934. The actions and uses are the same as those of carotene-SMACO. S.M.A. Corporation, Cleveland, Ohio.

SMACO Carotene with Vitamin D Concentrate in Oil—A solution in cottonseed oil of carotene-SMACO 0.3 per cent with sufficient vitamin D concentrate to bring the assayed potency to not less than 1,000 U.S.P. X-Revised, 1934, units per gram. It is assayed to contain in each gram not less than 7,500 units of vitamin A. It is proposed as a substitute for a cod liver oil of equivalent potency. S.M.A. Corporation, Cleveland, Ohio.

SMACO Carotene and Vitamin D Concentrate in Cod Liver Oil—A solution of carotene-SMACO, 0.03 per cent, in cod liver oil, adjusted by the addition of sufficient SMACO vitamin D concentrate so that it will assay at not less than 100 units of vitamin D per gram, and assayed to contain not less than 2,000 units of vitamin A per gram. The product is proposed for use as a substitute for cod liver oil of high potency. S.M.A. Corporation, Cleveland, Ohio.

SMACO Vitamin D Concentrate in Oil—A solution in cottonseed oil of the vitamin D concentrate of cod liver oil obtained by the method of Zucker. It is assayed to have a potency of not less than 1,000 units of vitamin D per gram. This product is proposed for use as an antirachitic. S.M.A. Corporation, Cleveland, Ohio. (Jour. A.M.A., August 4, 1934, p. 340).

Hippuran—The sodium salt of o-iodohippuric acid. Hippuran contains 38.8 per cent of iodine, when calculated to the dried substance. It is proposed for use as a radiopaque agent for intravenous, oral or retrograde urography. Hippuran is supplied in the form

of Hippuran (Crystals) 12 Gm. vial, and Sterile Solution Hippuran 25 cc. size. Mallinckrodt Chemical Works, St. Louis.

Erysipelas Streptococcus Antitoxin (Refined and Concentrated)—An erysipelas streptococcus antitoxin (New and Nonofficial Remedies, 1934, p. 369) prepared by immunizing horses with toxin and cultures of streptococci isolated from erysipelas cases. It is marketed in packages of one syringe containing approximately 15 cc. United States Standard Products Co., Woodworth, Wis. (Jour. A.M.A., August 11, 1934, p. 412).

Triethanolamine-Carbide and Carbon Chemicals Corporation—A brand of triethanolamine-crude (New and Nonofficial Remedies, 1934, p. 203). Carbide and Carbon Chemicals Corporation, New York.

Tuberculin for the Mantoux Test (New and Nonofficial Remedies, 1934, p. 384)—A filtrate from bouillon cultures of both human and bovine strains of *Bacterium tuberculosis* containing 50 per cent of glycerin as a preservative. It is marketed in packages of two 10 cc. vials, one containing 0.01 cc. tuberculin old, and the other 10 cc. of diluent. Parke, Davis & Co., Detroit, Mich. (Jour. A.M.A., August 18, 1934, p. 491).

Accepted Devices for Physical Therapy

The following products have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of accepted devices for physical therapy:

Specialists' Model Sollux Radiant Heat Lamp—This unit is particularly adapted for ear and throat work or for local application of radiant heat. The lamp employs a 300 watt tungsten filament bulb. It comes in

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Prof. of Surgery, Univ. of Iowa School of Med.

DR. RUSSEL L. CECIL, Internal Medicine, New York
Prof. Clin. Med. Cornell Univ. Med. School
DR. HERMAN KRETSCHMER, Urology, Chicago
Prof. G. U. Surgery, Rush Medical College
DR. WM. P. HEALY, Gynecology, New York
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DR. MEYER WIENER, Ophthalmology, St. Louis
Prof. Clin. Ophthal. Washington Univ. School of Medicine
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Hospital Model Sollux Radiant Heat Lamp—This lamp is recommended for use in a physician's office or a general hospital. It is claimed that at a distance of 48 inches with an area coverage 5 feet in diameter, points on a plane surface perpendicular to the primary direction of the rays will experience intensity deviations of less than 20 per cent. Hanovia Chemical & Manufacturing Co., Newark, N. J.

Office Model Sollux Radiant Heat Lamp—This lamp is designed to provide the physician and the specialist with a moderately priced office infra-red lamp of exceptional flexibility and therapeutic efficiency. Hanovia Chemical & Manufacturing Co., Newark, N. J.

Burdick Dual Zolite—This unit was developed and designed to provide a source of infra-red to meet treatment conditions for which infra-red radiation is indicated. It is equipped with a small localizing unit. The firm claims that by means of this localizing unit it is no longer necessary to heat the entire head when applying infra-red to the ear or other localized area around the head. (Jour. A.M.A., August 4, 1934, p. 339).

Altherm Eye Pad—The Altherm Eye Pad is recommended as a convenient device for applying heat to the eye. The mixture (heat-retaining element) used in the pad is nonirritating and noninflammable. The pad is prepared for therapeutic use by placing it in boiling water and boiling it for not more than ten minutes. After this the element will be found to be partially liquefied, and during recrystallization it will give off heat at a comparatively even temperature for approximately forty-five minutes, after which the element will have solidified completely. The temperature will range from approximately 120 down to approximately 110 Fahrenheit. The E. B. Meyrowitz Surgical Instruments Co., Inc., New York, N. Y. (Jour. A.M.A., August 25, 1934, p. 563).

Propaganda for Reform

Vitamin D and Calcium in Foods—The attention given to the vitamin D potency of cod liver oil and halibut liver oil with viosterol, and of egg yolk and liver has raised the question of the efficacy as anti-rachitic and mineralizing agents of some common foods less widely heralded in this respect. Kohman, Sanborn, Eddy and Gurin (J. Indust. & Engin. Chem. 26:758 (July) 1934) have reported the results of an experimental study on this question. These observations indicate that in foods chosen to be generally representative of our national dietary there may be an appreciable lack of calcium. However, the deleterious influence of indigestible residue on calcium absorption can be largely overcome by providing an additional source of this mineral element in readily available form. Furthermore, it appears that in ordinary dietary mixtures chosen in conformity with modern precepts of nutrition there are present adequate amounts of the appropriate accessory food factors for the promotion of satisfactory utilization of calcium and phosphorus. (Jour. A.M.A., August 11, 1934, p. 414).

Antihormones—Thirteen years ago, active glandular extracts were few and most endocrine therapy was "polyglandular." Today, however, there are many pure or nearly pure extracts the effects of which are fairly well known and more or less controllable. It was thought that these preparations must surely at last provide effective means for the treatment of disease; and they have been extensively (even incautiously) employed for this purpose. Potent endocrine preparations are often administered to patients and frequently the desired effects may be attained; but, curiously, an individual here and there, who should promptly be cured by this extract or that, not only fails to improve but occasionally even becomes worse.

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A Poliomyelitis Vaccine—A vaccine that seems to possess the likelihood of efficacy in the diagnosis and treatment of poliomyelitis is at present undergoing development in the Laboratories of the Department of Health of the City of New York. Influenced by the earlier work and also by the favorable results recently obtained with antigens inactivated by germicides in the prevention of other virus diseases, investigators have attempted to develop a new antigen against poliomyelitis. Using extraordinary precautions, the group in charge of these investigations decided to test out the antigenic properties on themselves before attempting inoculation of children with the antigen. Several members of the research group were injected with a vaccine prepared by adding formaldehyde to a suspension of material from the infected spinal cord. It is proposed, after testing the blood of those who have been inoculated to determine the extent of the immunity developed, to carry the investigations further, inoculating children against

this disease. The vaccine will, of course, have been established as absolutely harmless by the injection into the members of the committee and also as to its efficacy by the studies that have been made on monkeys inoculated with virus following inoculation with the vaccine. (Jour. A.M.A., July 28, 1934, p. 264).

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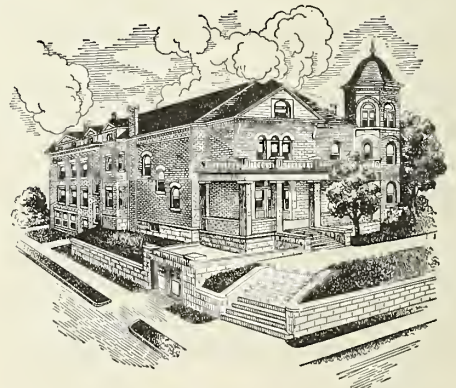
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ESSENTIAL HYPERTENSION*

EDGAR V. ALLEN, M.D.†

Rochester, Minnesota

Of all adults, 15 per cent have hypertension and 23 per cent of all deaths of patients who have passed the age of fifty years are directly attributable to this disease. Hypertension is, therefore, one of the most common and most serious conditions which physicians are required to treat.

Since the very first recognition of it, hypertension has been characterized by its resistance to treatment. Failure of attempts to lower the blood pressures of patients who have hypertension has led to shabby reasoning and to excuses why the blood pressure should not be lowered in cases of hypertension. Thus, it has been said that hypertension should not be treated since it is a symptom and not a disease, and that the heightened blood pressure is protective and danger attends lowering of it.

It is valueless to argue whether abnormally high blood pressure is a symptom or a disease; it causes death directly. There is adequate evidence, some of which I shall present later, that it is not harmful to lower blood pressure in cases of hypertension; in fact, such an accomplishment is highly desirable.

At The Mayo Clinic, we are daily impressed with the fact that hypertension, in many instances, is a malignant disease as far as seriousness is concerned, and that treatment should be based on this conception. Surgeon and patient are willing to accept a high mortality and repeated operations in an attempt to eradicate carcinoma, and this same attitude is justified in the treatment of certain patients afflicted with hypertension.

NORMAL BLOOD PRESSURE

The systolic pressure of the newly born, which is about 50 mm. of mercury, increases

rapidly, so that at the end of the first week of life it is about 60 mm., and by the end of the first month, 82 mm. From the ages of four to sixteen years, the systolic blood pressure increases from 90 mm. to 115 mm., and the diastolic pressure from 60 to 75 mm. After this there is no significant change until the age of fifty years for men and until after the menopause for women, at which periods there is further slight increase. The normal systolic blood pressure of adults ranges from 90 to 140 mm. of mercury, whereas the normal diastolic pressure ranges from about 70 to 90 mm. of mercury. The systolic blood pressure is that in the arteries immediately following closure of the aortic valve. The diastolic pressure is a measure of the resistance of the arterioles to the passage of blood through them.

TYPES OF HYPERTENSION

There are two types of hypertension: primary or essential hypertension, and secondary hypertension. The first term, which has served as a mask for ignorance, indicates a condition of unknown etiology. Synonyms which gradually have been replaced by the term "essential hypertension" are "the pre-albuminuric stage of chronic Bright's disease," "latent arteriosclerosis," "presclerosis," "hypertensive cardiovascular disease," "malignant sclerosis" and "benign sclerosis."

Secondary hypertension consists of those elevations of blood pressure which follow known causes, such as coarctation of the aorta, glomerulonephritis, aortic heart disease, exophthalmic goiter, tumors of the suprarenal glands, toxemia of pregnancy, and so forth.

HISTORICAL

For many years hypertension was all but universally regarded as a consequence of pre-existing renal disease or arteriosclerosis. As early as 1874, Mahomed surmised that hypertension could occur independent of renal disease or arteriosclerosis, but he believed that disease of the kidneys was an inevitable consequence of hypertension. In 1893 von Basch introduced the sphygmomanometer into clinical medicine.

*Address before the 76th Annual Meeting of The Kansas Medical Society at Wichita, Kansas, May 9, 10 and 11, 1934.
†Division of Medicine, The Mayo Clinic, Rochester, Minnesota.

He made more than 100,000 determinations of blood pressure and was well acquainted with essential hypertension, as it is known today. It remained, however, for Allbutt in England and Huchard in France, in the last decade of the nineteenth century, to impress on members of the medical profession the great frequency of hypertension unassociated with clinical evidence of renal disease. Allbutt described the case of a woman who had high blood pressure, and whom he observed for a period of years, but "years passed on and the dreaded Bright's disease never appeared" until finally she died of cerebral hemorrhage. Janeway, in 1912, formulated the causes of death in cases of hypertension, and laid down the facts on prognosis.^{11, 12}

THE DIAGNOSIS OF ESSENTIAL HYPERTENSION

The diagnosis of essential hypertension usually is easy. The important thing to remember is that high blood pressure may be a manifestation of diseases such as hyperthyroidism, coarctation of the aorta, and so forth. In the early stages it is easy to separate essential hypertension from hypertension that is secondary to glomerulonephritis, because of the absence of an unusual amount of albumin, blood, and casts from the urine in the former condition. In the later stages of the two diseases, distinction may be difficult, although examination of the retinae by an experienced ophthalmologist is of great value. In essential hypertension the blood pressure is more, the myocardium is injured more, and the peripheral arteries on palpation and the arterioles seen under the microscope following biopsy of muscle, are more hypertrophied. When reliable histories are available, the hypertension is found to be of greater duration in essential hypertension; in glomerulonephritis there is almost always a history of edema. But even when the pathologist has the kidneys in his hands or examines sections of them under the microscope, he is frequently puzzled as to whether the renal lesion was primary or secondary. Fortunately, in only about 10 per cent of cases of essential hypertension does any significant renal insufficiency develop, a fact that is of aid as a general observation, but that is of little value in any specific case. From a practical standpoint there is little to be gained from distinguishing between the two conditions when evidence of renal disease is advanced. The prognosis in each instance is equally grave.

Another thing to be remembered is that the

original reading of blood pressure is not reliable. Patients consult physicians because of fear, and fear increases the blood pressure. Thus, a physiologic increase in blood pressure may be mistaken for true essential hypertension. We make it a practice in the clinic, in instances in which the blood pressure is elevated, to determine it at a second visit when the surroundings of the examining room, and the physician, are more familiar to the patient, and after he has rested for fifteen or twenty minutes. If a physician follows this simple precaution he will be spared the error of giving an unduly grave prognosis because of the temporary unusually high blood pressure.

CLASSIFICATION

Various classifications of essential hypertension are not very impressive. They have their greatest importance in prognosis; yet this cannot be determined with any accuracy, ordinarily because the hypertension may progress from one group into another, and the prognosis becomes much graver. The best example of the value of classification as regards prognosis is well illustrated by the malignant hypertension described by Keith; 90 per cent of the patients are dead within eighteen months after examination at the clinic.

It is probable that classification of essential hypertension will remain of little practical value except in a prophetic way. Not many years ago, dysentery, or flux, was considered a single disease. When it was classified on the basis of etiology, real strides were made in the treatment and in other management. The same situation would doubtless be true for hypertension if the etiologic factors were multiple instead of single as they appear to be. It is almost certain that essential hypertension is an expression of heightened irritability of the sympathetic nervous system, and that this is almost uniformly inherited.

PATHOGENESIS

The evidence is clear that widespread vasoconstriction increases the general intra-arterial blood pressure. C. H. Mayo has shown, in a case of paroxysmal hypertension, that capillaries of the nail fold become entirely obliterated as a result of constriction of the arterioles when the blood pressure was elevated. Injections of epinephrine and ephedrine, fear, and anger increase the blood pressure by inducing vasoconstriction. The variations in blood pressure observed among hypertensive and among nor-

mal subjects appear conclusively to be results of varying degrees of vasoconstriction.

Numerous observations have indicated that essential hypertension in its early phases is the result solely of widespread vasoconstriction, a central abnormality. In such instances the blood pressure may return to normal temporarily, with application of such simple measures as rest and sedatives. In advanced stages of the disease there appears to be another factor working, with vasoconstriction, to increase the peripheral resistance and thus the blood pressure; namely, organic narrowing of the arterial lumens.

The exact situation of the preponderant vasoconstriction now can be stated definitely to be in the splanchnic vessels. The evidence may be summarized as follows: When cuffs of blood pressure apparatus are placed around three extremities and inflated above the systolic blood pressure, the rise in intra-arterial pressure of the free extremity is only slightly and transitorily increased. Individuals, three of whose extremities have been amputated, and the arteries of whose remaining extremity have undergone marked occlusion, do not ordinarily have hypertension. When spinal anesthesia is given to a patient with hypertension, the maximal fall in blood pressure is not obtained until the anesthetic has affected the splanchnic nerves. Removal of central control of the vasoconstrictor fibers to blood vessels, and thus maximal vasodilation in the extremities, is accomplished by lumbar and cervicothoracic sympathectomy, but the blood pressure is not significantly influenced. However, removal of sympathetic control of the splanchnic vessels in many instances reduces the blood pressure to normal or to nearly normal limits. These observations and others summarized by Fishberg, offer excellent evidence that the splanchnic region is the site of the vasoconstriction which causes the peripheral rise in blood pressure by which essential hypertension is recognized. These few facts about the pathogenesis of hypertension can be summarized as follows: essential hypertension, in its early stages, is the result of vasoconstriction, chiefly in the splanchnic regions; in the later stages of hypertension, organic arterial changes which occur as direct results of the hypertension produced by vasoconstriction contribute to maintenance of the blood pressure at a hypertensive level. Interest in hypertension is almost solely with that of the vasoconstrictive element, for it is during

this phase of the disease that something may be accomplished from the standpoint of treatment. Having assumed that hypertension is due to vasoconstriction, the cause of vasoconstriction remains to be stated.

ETIOLOGY

Sex, race, the endocrine glands, exclusive of the suprarenal glands, excess of protein in the diet, obesity, gluttony, abnormality of hepatic function, lead poisoning, tobacco, alcohol, so-called intestinal auto-intoxication, syphilis and infections do not explain the majority of cases of essential hypertension. The two structures which I wish to discuss somewhat in detail from the standpoint of etiology of essential hypertension are the suprarenal glands and the sympathetic nervous system.

The suprarenal glands and hypertension: The possibility that essential hypertension results from an increase of epinephrine in the blood has been considered ever since epinephrine was isolated from the suprarenal gland and was proved to have vasoconstricting properties. The theory which has been more or less periodically in and out of vogue has been revived recently by a report in which the terms "hyper-suprarenalism" and "essential hypertension" were used synonymously, and in which the procedure of partial suprarenalectomy was considered to be as specific as is partial thyroidectomy for exophthalmic goiter.⁷ Unfortunately, the reported results did not support the contention that a relationship of cause and effect exists between hyperepinephrinemia and essential hypertension. However, it seems pertinent here to review some of the known facts about this possible relationship. Excretion of epinephrine is entirely under control of the abdominal sympathetic nerves, and apparently the suprarenal glands no longer liberate epinephrine into the blood stream when control by the sympathetic nerves is removed. The theory that production of essential hypertension is increased by liberation of epinephrine is based on either (1) increased local activity of the sympathetic nerves which control the suprarenal glands, hence, liberation of increased amounts of epinephrine, or (2) on some inherent condition of the suprarenal glands which causes production of an increased amount of epinephrine. Tumors of the suprarenal gland cause paroxysmal hypertension, but in essential hypertension increases in blood pressure are not paroxysmal. In a case of non-paroxysmal hy-

pertension, in which the patient recently came to necropsy, a tumor of the suprarenal gland was found, but pathologists state that this is an extremely rare condition, and could not conceivably account for the vast majority of cases of essential hypertension. Hypertrophy of the medulla and cortical adenomas frequently are found in hypertension, but the significance of the findings is debatable. Hypertrophy of the musculature of the suprarenal veins, and increased vascularity are fairly constant findings, but they may represent evidence of increased activity of the sympathetic nervous system and do not directly indicate hypersecretion of epinephrine.³ Even increased amounts of epinephrine in the blood of patients with essential hypertension, which have been reported recently,¹⁴ do not indicate cause and effect, because it is not indicated that epinephrine is present in the blood in sufficient amounts to cause marked hypertension. Rebuttal to the arguments advanced for a causal relationship between increased liberation of epinephrine from the suprarenal glands and hypertension is furnished by work on experimental animals which indicates that sufficient epinephrine to cause hypertension is enough to "raise the blood sugar to an extreme diabetic level, dilate the pupils, paralyze intestinal and gastric movement and cause erection of hair along the neck and tail."³ Obviously, these conditions do not exist in the human being who has hypertension. The review just given is brief and does not warrant definite conclusions. Further investigations are being carried out at present. My own feeling in the matter is that increased suprarenal activity, if present in hypertension, is only an expression of heightened irritability of the entire sympathetic nervous system.

The sympathetic nervous system: More and more attention is being directed toward the part played by the sympathetic nervous system in hypertension. It is a fact that stimulation of the sympathetic nervous system causes temporary hypertension by provoking vasoconstriction. Individuals appear to differ in degree of response of their sympathetic nervous systems to external stimuli. If a shot were unexpectedly fired in a room, the surprise would provoke temporary elevation of blood pressure of every individual there. The degree of response of blood pressure, and the speed of its return to normal would vary in different individuals. Those cases in which the increase in the height of blood pressure and the period be-

fore it returned to normal were maximal would be those cases in which the sympathetic vasomotor nervous systems were hyperirritable. Variations in blood pressure have been shown to be greater among individuals who have hypertension than among normal persons, as can be observed by twenty-four-hour studies of blood pressure.¹⁷ Recently Hines and Brown developed a standard test or stimulus to vasoconstriction. They have shown that immersion of the hand in ice water for one minute produces a sharp increase in the blood pressure. This increase is much more marked if individuals have hypertension than if they have normal blood pressure. The studies of Hines and Brown indicate, therefore, an increased sensitivity of the vasomotor nervous mechanism in cases of hypertension. This heightened reactivity appears definitely to be central in cause, for studies have shown that the inhalation of carbon dioxide caused greater increases in the blood pressures of hypertensive subjects than of normal subjects.¹⁸ This indicates heightened irritability of the intracranial vasomotor center, for carbon dioxide has no pressor effect on peripheral structures. Further evidence has been reviewed by Fishberg.

Doubtless heredity plays a major part in the endowment of certain individuals with hypersensitive vasomotor mechanism. Sibs of patients with hypertension are much more likely to have hypertension than are those of patients whose blood pressure is normal. Even when sibs of individuals who have hypertension, are not, themselves, afflicted, the pattern of reaction of their blood pressures to a standard stimulus is that of individuals with hypertension.⁹ A second factor is the acquisition of abnormally sensitive vasomotor mechanisms as a result of environment. African negroes, and Chinese living in a native state, practically never have hypertension, but American negroes and Chinese in large cities have hypertension in as high a proportion of the entire population as do white men. It is probable, then, that environment may retard or suppress an inherited tendency to hypertension, or may provoke earlier or more intense hypertension among individuals who carry the constitutional central abnormality of hypertension. The hyperirritability of the sympathetic vasomotor nervous system is expressed by over-reactions to standard stimuli. In this modern age, with its greatly multiplied difficulties of living and adaptation to environment, there are probably

thousands of episodes of sympathetic stimulation each day, each one followed by temporary hypertension; over a period of years the arterial musculature responds, by hypertrophy, to these innumerable episodes of vasoconstriction, and the hypertension progresses to the organic stage. Hypertension is viewed, then, not as a disease of sex, race, diet, climate or occupation, but in its true light, a disease of heredity and competitive life.

PROGNOSIS

Prognosis in hypertension is, at best, uncertain. Too much stress has been laid on a single factor, the height of the blood pressure. The sphygmomanometer reading exaggerates the true status of the hypertension when single readings are made in the office. The information desired is concerning the level of the blood pressure throughout the entire day. This is best acquired by hourly determinations of the blood pressure during activity, rest, and sleep. The mean of these determinations reflects fairly accurately the seriousness of the hypertension from the standpoint of its height only. Even when this information is gained it is likely to be misleading in prognosis because other important factors are at play. Almost every physician who has observed patients with hypertension over a period of years can recall some who have had severe hypertension from which they have not suffered, apparently. Other individuals, whose hypertension is of minor or moderate degree, may acquire serious complications of hypertension. The diastolic blood pressure is of greater importance than the systolic in determining the outlook for patients with hypertension. Variations in the height of the blood pressure, as shown by hourly determinations, influence prognosis. Hypertension fixed at a high level is more serious than that which fluctuates from high to nearly normal, because the total vascular strain is much greater in the former instance, and organic arterial disease is in an advanced stage.

The history of death of parents, brothers and sisters at an early age, from cardiovascular renal disease, seems to indicate an unfavorable prognosis for individuals with hypertension; conversely, longevity of these relatives is an encouraging sign.

Evidence of impaired cardiac or renal function is of very serious import, but individuals may recover from the effects of a cerebral hemorrhage, to live many years in comparatively good health. Advanced changes in the retinal

arteries, viewed with an ophthalmoscope, and in the arteries of skeletal muscle removed for biopsy and studied microscopically ordinarily are indicative of a grave prognosis.

Age and sex are important factors; older persons are most likely to die from diseases other than hypertension, and women tolerate increased blood pressure much better than men.

The most important of all factors in prognosis of hypertension is rapidity of progress of the condition. A short span of life can be predicted for individuals with hypertension characterized by moderate changes in heart, blood vessels, or kidneys, if their blood pressure has been known to have been normal one, two, or three years previously. The same prediction holds for individuals whose blood pressure gradually has ascended over a short period, even when organic arterial disease is of a minor nature.

The second most important factor influencing the future of patients who have hypertension is the inherent resistance of the arteries and myocardium to serious organic or functional change. This is a truly imponderable factor, and appears to account for the wide spread in the degree of structural change in arteries, and of functional change in the myocardium in groups of patients in which other factors seem comparable.

All signs may fail in prediction of the course of hypertension. Prognosis should always be made cautiously and expressed with wide latitude. Practically, it need never be attempted unless requested; then a favorable prognosis given to the patient, even if eventually wrong, is better than a grave one, right or wrong.

TREATMENT

If what has been stated regarding the pathogenesis and etiology of hypertension is true, the problem of treatment is that of alleviating the abnormal sensitivity of the sympathetic vasomotor nervous system, or of severing the connection of the vasomotor center with the place where the hypertension is effected, namely, the splanchnic blood vessels. Consideration of the former falls under the heading of medical treatment, and consideration of the latter, under the heading of surgical treatment.

Medical treatment: Avoidance of stating an unfavorable prognosis directly to the patient is important in the treatment of hypertension. When careful evaluation of all factors influencing prognosis indicates an unfavorable outlook, the information should be communicated to

relatives of the patient, but the patient himself should be reassured. There can be no condoning, by thoughtful physicians, of the too often expressed opinions to hypertensive patients that "you may have a stroke some day," or "your heart will blow out some day," or, "you will fall dead sometime." These actual statements, made by physicians to patients whom I have treated, represent the most grisly examples of perverted service to the sick. They engender fear which makes the patient unhappy, and contribute to maintenance of his blood pressure at a higher level than it would assume as a result of better advice. Assurance of the benignancy of hypertension in specific cases may constitute an untruth, but it is a worthy one and can do no harm. This statement does not imply lack of necessity for supervision of patients with hypertension; such supervision is better carried out, with the statement that the procedures outlined serve to hold the hypertension in check. Most patients fear a "stroke," a feeling best allayed by the frank statement that it will not occur. This statement usually will be correct, for cerebral hemorrhage constitutes only about 15 per cent of the serious complications in cases of hypertension.

A rational program of treatment, when hypertension is first discovered, begins with a period of rest in bed for the patient. During this time the blood pressure should be read frequently; if hospital facilities are available, readings should be made every hour or so. The results, charted on a sheet of paper, almost invariably show lowering of the blood pressure, which encourages the patient and convinces him of the value of rest. The action of drugs can be determined during this time. Intimation of, or statement of, the probabilities or possibilities of cure of the hypertension are to be avoided. Once the patient feels his blood pressure can be made to return to normal he is rarely satisfied with less. One can speak of holding it in check to much better purpose.

Almost all the drugs and preparations recommended for treatment of hypertension are of little or no value. By far the most valuable are the sedatives; of these the barbiturates are of preeminent benefit. Under controlled conditions, it can be demonstrated that administration of large amounts of sedatives will cause the blood pressure to return almost to normal, and will abolish increases in blood pressure following stimuli such as immersion of the hand in ice water.

Unfortunately, the sedative effects of large amounts of the drugs prevent the routine use of them, for the patient would be unable to carry on a normal existence. The amount to be given three or four times a day should be great enough to abolish nervousness and restlessness, and small enough to avoid drowsiness and excessively slowed mental reactions. Larger amounts are advisable during the week-end when it is unnecessary to carry on normal activity. Various other drugs reduce the blood pressure temporarily by causing vasodilation. In my experience, this effect is of too short duration to be of any great benefit. There is, however, no harm, and perhaps some benefit, in the use of nitrites.

Diet is of little or no benefit. Physicians have used dietary management largely because there appears to be nothing else to do; it is tangible evidence of medical care. I feel that dietary management may even be harmful. Patients who are advised to avoid certain foods are reminded at every meal time that they are unwell. This reminder serves to keep alive their anxieties and fears regarding the hypertension. I see no reason why patients who have hypertension should not eat the usual foods. Obesity should be avoided because it increases the work of the myocardium and embarrasses cardiac action by depositions of fat around the heart and in the heart muscle.

I believe that repeated determinations of blood pressure, at short intervals, are distinctly harmful. After the first period of study of the patient's blood pressure, it is better to determine its degree not oftener than every three or four months. By this procedure, heightened concern on the part of the patient is obviated, while daily or weekly readings induce a state of continuous anxiety and worry. One need only observe the anxious and distraught features of patients who have hypertension, while the blood pressure is being determined, to recognize the fears this procedure awakens. Physicians see no need for daily or weekly roentgenologic examinations for pulmonary tuberculosis or for carcinoma of the stomach, and none exists for sphygmomanometric readings of blood pressure.

Rest is important in the treatment of hypertension, and prescription of rest requires fine judgment. Apprehension and semi-invalidism can be brought on by a regimen which is too strict. Ordinarily patients should rest or sleep in bed nine to ten hours each night, lie down in

a quiet, darkened room for an hour at midday, and when possible, rest in a quiet, peaceful environment during the week-end. Regular vacations are important. The lives of all individuals are occupied with non-essentials. The physician should weigh the pleasures these activities give, against the benefit to be derived from elimination of them. Civic and club activities may be strenuous enough to make cessation of them desirable.

In two circumstances restriction of activity is of debatable advisability. The patient who has evidence of advanced disease but who still can carry on may be allowed to do so until he "drops in the harness." He is frequently much happier living in this manner. Another type of patient is the dynamic individual whose entire life centers around activity. He may voluntarily choose the road of unrestricted living. No great attempt should be made to dissuade him; his accomplishments and not his life-span are the important factors in his life. It is too seldom remembered that life has breadth as well as length.

Rest and reassurance constitute the foundations of medical treatment. Some physicians argue that the best of medical measures are of no avail in hypertension. This may be true in large degree. The necessity for medical supervision is, however, no less acute for the comfort it gives to patients and relatives. Not infrequently the physician observes that the measures that have been outlined appear to influence the course of the hypertension beneficially. They are, therefore, fully justified.

Surgical treatment: Removal of the cervico-thoracic and lumbar sympathetic nerves, as carried out for Raynaud's disease, has no significant influence on blood pressure. Bilateral partial suprarenalectomy has been reported by DeCourcy⁶ to have beneficial effect; the average fall in systolic blood pressure of eight patients was 70 to 90 mm. of mercury, and in diastolic blood pressure, 40 to 50 mm. of mercury. Partial suprarenalectomy is certainly entitled to further trial in treatment of hypertension.

Resection of the splanchnic nerves, following the technic described by Craig and Brown, has been carried out at The Mayo Clinic in eight instances. The results have not been striking. The condition of individuals with far advanced arterial disease resulting from hypertension invariably has progressed to death. Other patients, who have less advanced stages of the disease, have received a maximum of

about 25 per cent reduction in systolic and diastolic blood pressures. It appears that resection of the splanchnic nerves is far from the most desirable procedure in hypertension. It cannot be said, however, that it has had an entirely fair trial until the effects of it on blood pressure of patients with early phases of hypertension have been observed.

Resection of anterior spinal roots for hypertension has been reported by Adson and Brown. Twelve patients have been operated on at The Mayo Clinic. In all instances the blood pressure has returned to levels lower than it was before operation. In some instances, the drop in blood pressure as a result of the operation has been dramatic. The blood pressure of one patient, as an example, changed from a level of 230 mm. of mercury systolic and 130 diastolic, to one of 130 mm. of mercury systolic and 90 diastolic, as a result of operation, and remained at the latter level during the twenty-one post-operative days he was under my observation.

Concerning the surgical treatment of hypertension, all has not yet been learned. Further observation is necessary. It is impossible to be certain, yet, that complications of hypertension will not occur in spite of the lower levels of the blood pressure. Perhaps the blood pressure may eventually return to preoperative levels. The observation that the surgical procedures mentioned can be performed without serious harm to patients is important. The fact that lowering of the blood pressure to a level near normal does not handicap certain functions dependent on circulation is an important observation which should silence the criticism of attempts to lower the blood pressure in essential hypertension. Completion of each step in the carefully planned surgical attack on hypertension engenders confidence to proceed. The intention now is to operate on patients in earlier stages of hypertension, because it is in this phase of the disease that most should be accomplished. Observations on the surgical treatment of hypertension lead to the feeling that surgical treatment of the condition may be about to effect control of, or perhaps may even cure, essential hypertension.

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UTERINE HEMORRHAGE DUE TO ADNEXAL PATHOLOGY*

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Uterine hemorrhage is frequently met with in chronic and subacute salpingitis or oophoro-salpingitis. But excessive uterine hemorrhage complicating adnexal pathology has not been common in my experience which at this time on account of our recent knowledge of hormonology is an interesting subject for our consideration. An evaluation of the causative factors is important, because it determines the treatment to be instituted.

For the purpose of this subject, I will present two cases.

Case 1.—B.Mc. Age 36 years. Widow. Family history negative. Personal history: menstrual; puberty began at the age of 13 years, 28 day type, flow 7 to 8 days, no clots. Past two years 14 to 21 day type, flow 8 to 10 days, moderate in amount, with clots. Tuberculous cervical adenitis and involvement of the upper lobe of the right lung after an attack of influenza in 1918. Spontaneous abortion between the fourth and fifth month followed by sepsis which lasted for three months in 1920.

June 20, 1931 patient developed a moderate uterine hemorrhage for which a curettement was done. Microscopic diagnosis: Hyperplastic endometrium.

Patient consulted me on July 30, 1931, on account of profuse uterine hemorrhage, no abdominal pain, and marked evidence of secondary anemia. Patient was hospitalized. Blood picture: red cells 2,600,000, white cells 7,000, and the differential polymorphonuclears 70 per cent and lymphocytes 28 per cent. HB 55 per cent. A dilatation and curettage was performed and was followed by a direct blood transfusion of 460 cc. Diagnosis: uterine hemorrhage due to either an ovarian dysfunction or a left sided pyosalpinx. Microscopic diagnosis of curettement; slight evidence of hyperplastic endometrium, if at all, but the stroma edematous with some round cell infiltration. Uterine hemorrhage stopped and patient was discharged on August 7 greatly improved.

Patient was seen on August 11, stating that bleeding was slight for the past few days. The left sided mass felt somewhat larger. Advised laparotomy. On August 12 a laparotomy was performed which showed a left-sided pyosalpinx, the uterus was of normal size and of firm consistency, and a normal size ovary with no evidence of a macroscopic corpus luteum. Very few adhesions found. A left salpingectomy was done. Microscopic diagnosis: chronic suppurative salpingitis. Patient was discharged from the hospital on August 23 with the following blood picture: red cells 3,210,000, white cells 10,000 and a differential of polymorphonuclears of 89 per cent and lymphocytes of 10 per cent. Patient was in a good condition, except for the secondary anemia. Patient was examined three months later and found to be in good condition with no uterine bleeding since the laparotomy.

Case 2.—Mrs. C. S. Age 42 years. Married 22 years. Para 3. Family history negative. Personal history; menses since puberty 28 day type, flow 4 to 5 days, no pains or clots. Three normal pregnancies, labors, and puerpera. On July 20, 1933 patient was ill for a few days with chills, fever, and malaise. On July 31, noticed a thick, yellowish discharge which continued for four days and followed by uterine bleeding for which a dilatation and curettage was performed four or five days later with an arrest of the bleeding for six days.

Patient consulted me on September 4, com-

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plaining of uterine bleeding for the past month. Patient showed evidence of secondary anemia, afebrile, pulse 110, but no abdominal complaint. Abdomino-rectal examination disclosed a normal anteflexed uterus and a sausage-like mass on the right side. Diagnosis: Uterine hemorrhage due to a chronic right salpingitis. Advised conservative treatment.

On September 6, patient developed a severe uterine hemorrhage and passed two large clots of blood. Patient was hospitalized. On entering the hospital the complaints were weakness, dizziness, and uterine hemorrhage. Temperature 99, pulse 96 and of good volume, and respirations 24. Blood pressure 130. Blood picture: red cells 3,680,000, white cells 10,500, and a differential of polymorphonuclears of 71 per cent and lymphocytes 24 per cent. H.B. 60 to 65 per cent. Diagnosis of uterine hemorrhage due to the right sided salpingitis. Conservative treatment.

The uterine hemorrhage continued so on September 9, I performed a supravaginal hysterectomy and a bilateral oophorosalphingectomy. Pathologic diagnosis: subacute to chronic salpingitis of the right fallopian tube: chronic salpingitis of the left fallopian tube. Uterus was of normal size and not vascular. Ovaries of normal size with no evidence of a corpus luteum macroscopically. On cross section the right ovary contained a corpus luteum cyst.

The postoperative course was complicated by a mild paralytic ileus. On September 16 the blood picture was: red cells 2,900,000, white cells 5,900, and a differential of polymorphonuclears of 38 per cent and lymphocytes of 48 per cent. A direct blood transfusion of 600 cc. was done. Patient rallied for a short time and died in eight hours probably on account of the blood transfusion. In retrospect I feel that this patient developed an attack of influenza in July and that the surgical procedures activated the residue of the infection in the pelvis to account for the postoperative blood picture and possibly a low grade peritonitis to account for the paralytic ileus.

The recent knowledge of hormonology has opened up a new field of thought of normal and abnormal uterine hemorrhage. In the biologic advances of hormonology, it may not be amiss to briefly discuss the various factors that may be responsible for abnormal uterine hemorrhage.

The work of Bonn-Fraenkel and Hirsch-

mann-Adler appeared to have settled the problem of uterine hemorrhage as being due to ovarian dysfunction. Hitschmann-Adler through their work on the endometrial changes during the menstrual cycle insisted that inflammatory conditions of the uterus do not cause uterine hemorrhage, but the hemorrhage is due to a deranged ovarian function affecting the endometrium. Novak demonstrated that uterine hemorrhage due to ovarian dysfunction is characterized by a hyperplastic endometrium.

Clinical and operative experience cause us to inquire of the absence of uterine hemorrhage in highly vascular uteri from pelvic pathologic conditions. In spite of the above consideration, we know that uterine hemorrhage is present with and without the pathologic picture of hyperplastic endometrium which brings up the problem of the endometrium as a causative factor.

The role of the endometrium in the mechanism of uterine hemorrhage is not well known. We do know that the most intense hyperemia of the uterus associated with adnexal inflammation does not frequently cause uterine hemorrhage. Whether the endometrium *per se* plays a part in the coagulability or non-coagulability of the menstrual blood by a hormone or an enzyme is a question to be answered. The consensus of opinions is that the endometrial function for bleeding is dependent upon ovarian function. What part the reticulo-endothelial system plays when associated with adnexal pathology is another problem that will have to be worked out.

The ovarian factor leading to uterine hemorrhage is today bound up with the biologic study of the hormones of the pituitary gland. The work of Ascheim-Zondek, Smith, Engel, Hartman, and Corner has placed the mechanism of uterine bleeding on a biologic basis. The ovaries are dependent for their primary activity on the pituitary gland. Prolan A is the motor activator of the ovaries leading to Graafian follicle formation and the response of the Graafian follicle formation is dependent upon the intensity of prolane A effect on the ovaries, probably on a quantitative basis. Prolan B is the luteinizing hormone, so that we may consider prolane A and B as antagonistic in their action on the ovaries. When the prolanes are properly functioning, we have a coordinating response of the ovaries in which event the normal Graafian follicle or follicles and the corpus luteum hormones act in a sequential

manner leading to a normal menstrual cycle. If, however, prolan A is not antagonized by prolan B then prolan A is out of control, so to speak, with the result we have an increase in the number of Graaffian follicles formed. This causes an hyperoestrogenic hormone action on the uterus with the resulting abnormal uterine hemorrhage on account of the absence of the inhibiting or luteinizing hormone, prolan B.

Hartman and Corner have demonstrated in the monkey that menstruation takes place without ovulation which is brought about by the direct action of the anterior pituitary hormone on the uterus. This has been conclusively shown in the monkey, because they have a menstrual phenomenon during the non-breeding season during which laparotomy has demonstrated the absence of Graaffian follicle or corpus luteum formation. This condition has been suspected to occur in the human. Therefore, we have to consider the direct action of the pituitary gland on the uterus (endometrium) in uterine hemorrhage.

What is the mechanism of uterine hemorrhage when adnexal pathology is present? Congestion of the uterus on account of adnexal pathology can be eliminated as a serious factor in excessive uterine hemorrhage. Pathologic conditions and neoplasms of the uterus will not be considered.

With our present interest in the progress of hormonology, we must carefully evaluate this factor in order to be rational in our therapy. What regulates the cycle of the anterior pituitary gland hormones or its activator, we do not know. But we do know that functional uterine hemorrhage is most frequently associated with the persistence of Graaffian follicle or follicles cysts, the absence of the corpus luteum, and the histologico-pathologic condition of hyperplastic endometrium; but no uterine or adnexal pathology, although both may be combined. The type of cases that I am presenting is definitely associated with adnexal pathology, for the pathologic study of the removed tissue demonstrates an activity of the tissue of recent origin. In view of the presence of recent definite adnexal activity, I am of the opinion that the hormones are not the causative factor of the uterine hemorrhage.

The endometrium is a factor to be considered, and I realize that at this time my opinion must be of a speculative character based on clinical experience of some years. The impor-

tance of the endometrium as the causative factor was impressed upon me some ten years ago by the following case:

Case 3.—Mrs. M.D., age 24 years, para 2. History not essential, except that I took care of the patient in her last pregnancy and labor. No pelvic pathology was found six weeks postpartum nor for some years after. The patient developed lower abdominal pains, rigidity, and tenderness, nausea and vomiting, and a mass in the lower left pelvic cavity. Rapid pulse and a temperature ranging between 101° and 102°, during an attack of influenza. The patient was hospitalized and by the fifth day the pelvic condition became so aggravated which demanded surgical interference in spite of the influenza. On laparotomy the uterus was found to be of normal size, and softer than normal, and vascular. The right tube and ovary were of normal size, but vascular. The left ovary was of normal size; and the left fallopian tube was markedly distended in a funnel-shape manner measuring about 13 cm. in length, and the fimbrial ostium dilated to about 8 cm. in diameter; the tubal lumen was filled with clotted blood, and some clotted blood free in the abdomen. A left sided salpingectomy was done and the patient made an uneventful recovery. Pathologic diagnosis: hemorrhagic salpingitis. Patient is pregnant at this writing.

Abortion has been frequently encountered complicating influenza. I have observed many cases of abortion with excessive uterine hemorrhage complicating influenza which necessitated immediate blood transfusion. These cases are characterized by a flaccid uterus and an absence of uterine colic. Immediate emptying of the uterus arrests the hemorrhage. This observation as to the histologico-pathologic findings of the endometrium will be reported in the future.

Influenza has in my opinion a predilection for the endometrium which causes changes that are responsible for the permeability of the blood from its vessels leading to uterine hemorrhage of different degrees. During the year of 1918 and 1919, we know that influenza caused serious results to the pregnant woman in the death of the fetus, abortion or premature labor, and a high maternal mortality. The clinical manifestations of these cases are unknown to me, because I was with the Colors during that period. From the literature and information gathered from my colleagues, I have been informed that uterine hemorrhage was frequently found to complicate influenza.

If the endometrium is the causative factor, besides the cases of influenza, what is the mechanism of the bleeding? I realize that a constitutional or a local toxemia may involve the endometrium, ovary, or the anterior pituitary gland. It is also possible that a functional uterine hemorrhage may take place when adnexal pathology is present, but in my experience I have not found this coincidence in any given case. I have seen severe uterine hemorrhage on a functional basis during the menopausal stage, but Case 2 demonstrates that the latent adnexal pathology was activated by the pathologic diagnosis of subacute to chronic salpingitis which I interpret that the influenzal attack of July 20 was the cause. In view of my clinical experience with these cases, I am inclined to believe that the toxemia can affect any part of the Mullerian tract in either a normal or a pathological condition. Case 1 and 2 appears to have been an acute exacerbation of a chronic adnexitis which affected the endometrium as the cause of the uterine hemorrhage. Case 3 is a complicating hemorrhagic salpingitis in which the influenzal toxemia affected the left fallopian tube with the excessive uterine hemorrhage into the tubal lumen and the free clotted blood in the abdomen.

If we wish to assume the premise that the acute exacerbation of the adnexal pathology from whatever source is the factor of the uterine hemorrhage, what is the treatment? We must assume the premise that the bleeding is due to either the endometrium *per se* or hormones on the endometrium through the ovary or direct from the anterior pituitary gland, so that the treatment resolves itself into surgical or hormonal therapy. I am of the opinion that the treatment of this type of uterine hemorrhage is conservative or surgical. Many cases have been conservatively managed as acute exacerbation of chronic adnexitis with excellent results.

The cases that I have presented were cases of excessive uterine hemorrhage, and the diagnosis of adnexal pathology affecting the endometrium or an acute infectious disease involving the endometrium were carefully treated by conservative management, but when it threatened to develop into excessive uterine hemorrhage the treatment was laparotomy. When uterine hemorrhage complicates an abortion during an influenzal attack curettage may be necessary to prevent excessive uterine hemorrhage.

If the endometrium is considered as being secondary to hormone action then the hormone treatment may be considered. I have not treated any of these cases with hormone therapy and have had excellent results by the usual conservative management or laparotomy as indicated; and curettage and blood transfusion in cases of excessive uterine hemorrhage complicating abortions.

If we consider hormone therapy then prolan B is indicated. Prolan B is primarily indicated when luteinization is defective, but in my experience I have found no evidence that the absence of luteinization was a factor in any case, or I may state that I have found no evidence of persistent Graafian follicle cysts. In excessive uterine hemorrhage of the type that I am discussing the hormone action is too slow to attempt its use, for in serious cases the treatment must be laparotomy with or without blood transfusion.

In summarizing this type of adnexal pathology it is essential to evaluate the factor that causes the uterine hemorrhage for in the cases of excessive uterine hemorrhage any attempt to use hormone therapy, will in my opinion jeopardize the life of the patient.

CONCLUSIONS

1. Uterine hemorrhage is frequently caused by adnexal pathology.
2. I am inclined to believe that it is due to action of the adnexal toxin on the endometrium.
3. Hormone therapy is of no value in the treatment.
4. Excessive hemorrhage may necessitate curettage or laparotomy with or without a blood transfusion.

CHRONIC BRUCELLOSIS

Alice C. Evans, Washington, D. C. (Journal A.M.A., Sept. 1, 1934), summarizes the main facts relative to the incidence of chronic brucellosis as follows: 1. Contact with the casual organism is of common occurrence. 2. The severity of infection is known to vary from the acute disease to a form so mild that the subject is unaware of the illness. 3. Clinical diagnosis is extremely difficult, even in severe cases. 4. *Brucella* infection is known to occur in animals that appear to be healthy. 5. There exists in this country a common malady—the so-called neurasthenia—which in its clinical manifestations cannot always be distinguished from chronic brucellosis. These facts challenge the right of a physician to make a diagnosis of neurasthenia—a diagnosis regarded as dishonorable by the patient, and also by his family, his employer and his friends—without considering, among other possibilities, the possibility of chronic brucellosis.

ACHYLIA GASTRICA

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Medical literature in the past few years has been flooded by an avalanche of papers on the subject of achylia gastrica but as yet the true meaning and significance of this condition is very uncertain. The terminology of this syndrome has been used rather loosely by the profession, but in this discussion the term achylia gastrica will designate the original meaning given it by Einhorn who introduced the subject as "an absence of both free hydrochloric acid and ferments in the gastric juice." The term achlorhydria should, in my opinion, be strictly limited to the more frequently occurring condition in which only free acid is lacking in the gastric secretions.

Many years ago, chronic gastritis was a popular diagnosis for stomach complaints, but due to the rapidity with which postmortem digestion took place in the gastric mucosa the condition was difficult to demonstrate at the necropsy and the diagnosis gradually faded into the great heap of functional disorders.

The advent of subtotal gastrectomy and the development of an immediate tissue fixation technique by Knud Faber and his Norwegian associates revived interest in pathological conditions of the gastric mucosa, and reliable studies are now beginning to shed some light on chronic gastritis and its accompanying symptom, achylia gastrica. There is scarcely a reasonable doubt that the fibrosis following in the wake of the chronic inflammation of parenchymatous gastritis produces atrophy of the acid secreting cells of the stomach, but at the present time this process seems wholly inadequate in explaining the achylia of a great majority of the cases. In all probability there are numerous other factors playing a role in this dysfunction.

Ryle and Hurst have expressed the idea that cases of achylia gastrica can be divided into two groups. They consider one type as almost certainly hereditary and the other type represents the cases of extensive catarrhal condition of the gastric mucosa, previously described. They believe that in the hereditary type the gastric glands have never developed or functioned and in this group we find the individual who de-

velops pernicious anemia. It seems difficult to agree with this assumption because most cases of pernicious anemia develop late in life and it would seem reasonable to expect much earlier manifestations of the disease if it were due to a congenital abnormality.

Since the advent of Beaumont's studies, gastric secretion has held the interest and attention of many worthy investigators. Almost as many different theories have been advanced as there are investigators in the field. Ivy has well summed up the subject by suggesting that the gastric secretory mechanism may be activated by one or all of several processes: direct stimuli by mechanical distention of the stomach; some chemical action on or via the gastric mucosa by certain substances; reflex nervous mechanisms through the cerebral cortex, thalamus, midbrain and medulla; or chemical action on or via the intestinal mucosa. From this summation one can readily see that so far, physiologists are still considering every possibility, from pyloric tone to secretagogue action as the governing mechanism of gastric secretion, true inflammation being the only remaining unquestioned factor responsible for achylia gastrica.

The secretions of the stomach are evidently not absolutely necessary for the immediate maintenance of life, as Dennig, Hartman, Hurst and others have reported cases of total gastrectomy on patients who lived one to ten years before developing a severe anemia. Apparently in these cases the intestinal tract, with the aid of the accessory digestive organs, took on the major stomach functions to a large extent.

Of utmost importance in a study of this subject is a reliable technique for making acid determinations. Here again we are confronted by some rather difficult obstacles. The regurgitation of the alkaline duodenal contents into the stomach is a hazard which not only makes it extremely difficult to estimate true acid values, but also may even neutralize all the acid secreted in cases of subacidity, and one will be unable to know whether we are dealing with a true or false achylia.

The late work of Van Zant, Alvarez and associates has at last given us in a measure some indication of what to expect as normal acid figures. They have made extensive studies of each sex at various age levels. Until the publication of these studies and statistics, what had been considered normal or abnormal determinations was in the strictest sense only an extremely

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rough guess. Their work is undoubtedly a great contribution to this subject and with this approach to the understanding of the normal, we are at last beginning to have some basis from which acid evaluations may have some definite meaning.

The Ewald meal, motor meal, alcohol meal and histamine test all have their staunch supporters. In my opinion, the use of histamine for testing the gastric secretory mechanism is one of the greatest contributions ever made to the study of the subject.

Our technique of acid determinations is the simple procedure of passing a Rehfuess tube into the stomach after an overnight fast and withdrawing a fasting specimen. Fifty cc. of seven per cent alcohol is then introduced into the stomach through the tube and specimens are withdrawn every fifteen minutes for one hour. If no free acid is found in any of the first three specimens, 0.25 mg. of histamine is given subcutaneously and specimens are withdrawn at fifteen minute intervals for another forty-five minute period.

Histamine is the most powerful stimulant known for gastric secretion and its use is the only procedure by which a true achylia may be differentiated from a false, a fact which in itself is of the greatest importance from a diagnostic standpoint.

Some investigators of this subject recommend the use of 1 mg. of histamine as the dosage necessary for accurate determinations. Gompertz and Cohen have adequately demonstrated that the much smaller dosage of 0.25 mg. was practically always sufficient and this dosage certainly has proven satisfactory in my work.

Flushing of the face, palpitation of the heart, smothering sensations, a fall in blood pressure, rapid pulse, and pulsations or throbbing in the head with slight headaches are systemic reactions that often follow the injection of 1 mg. These manifestations are greatly reduced by the use of the smaller dose.

Cases of hyperthyroidism should not be tested with histamine because one may encounter a vasomotor reaction of serious consequences. Because of the possible action on smooth muscle, pregnancy should also be considered a contraindication for the use of this drug.

In cases of marked subacidity we may not be able to determine the presence of acid secretion with histamine, because of the aforementioned

rapid neutralization of the gastric contents by regurgitated alkaline duodenal contents. In these cases, neutral red may be a valuable adjunct as its presence in the gastric secretions would show that the gastric glands were functioning even though the acid had been neutralized. Neutral red has been advised by some authors as a routine procedure for the testing of glandular secretory ability but I believe that it should be used only as an adjunct measure because it does not possess the glandular stimulating qualities of histamine.

Hubbard, Munford and Allen carried out some extensive studies on the hydrogen ion concentration of the urine and its relation to acid secretion of the stomach. They report that the alkaline tide of the urine varied after meals containing different foodstuffs, similar to the variations obtained in the fractional gastric analyses after similar foodstuffs. The average values showed definite changes in urine specimens from patients who secreted more than the minimal amounts of hydrochloric acid and no changes occurred in patients who secreted little or no acid. This seems to be a rather laborious procedure but may prove a valuable aid in cases where determinations cannot be made by the usual present day technique.

Although this paper deals only with the secretory phase of the gastric mechanism, the fact must not be overlooked that the motor mechanism is also of equal importance and in any study of gastric function this phase should also be carefully analyzed and considered.

The symptomatology of achylia gastrica is extremely variable. Many cases undoubtedly present no symptoms and the patient is in good health. Bennet and Ryle have demonstrated achylia gastrica in four per cent of normal medical students and it undoubtedly occurs with increasing frequency in disease and advancing age. In some cases the symptoms are quite vague and of a functional nature while in still another group achylia gastrica is responsible for, or very closely allied with, specific syndromes of a definite systemic character to be discussed later. Achylia is often apparently responsible for annoying symptoms in conditions showing genuine pathological lesions.

Eructations of gas or bitter brash from the stomach, epigastric distress or fullness before, during or immediately after meals, bloating and excessive passage of flatus, nausea, headaches, and nervous fatigue are the usual formidable

array of symptoms encountered in the group of strictly functional digestive disorders.

Anemia, either the so-called simple achylic anemia that is non-pernicious, or typical Addisonian anemia, is one of the most frequent systemic syndromes encountered.

Knud Faber was first to describe the former type in 1909. He further elaborated on this subject in subsequent papers written in 1913 and 1924. He designated this condition as "achylia gastrica with anemia simplex", "anemia simplex in achylia gastrica", or simple "achylic anemia". Numerous other investigators have contributed to this subject under various titles. Nolen in 1925 speaks of it as "Chlorosis Chronica Tarda cum Achylia Gastrica"; Witts in 1930 named it "simple achlorhydric anemia"; Waugh in 1931 entitled it "Hypochromic Anemia with Achlorhydria"; Dameshek in 1931 discussed it under the caption of "Primary Hypochromic Anemia"; while Mills in 1931 has written on the subject under the title of "Idiopathic Hypochromemia".

This anemia, which has been described under such a wide range of titles, is a syndrome with well defined clinical characteristics, the principal features of which are true gastric achylia and hypochromic anemia. It is practically always encountered in women between 20 and 50 years of age. These patients present themselves with numerous complaints but the most frequent is extreme fatigue. Dyspepsia in the nature of epigastric fullness, eructations, flatulency and irregular bowel action are extremely frequent. Glossitis has not been a very consistent complaint in the patients I have observed but several cases have had crops of stomatic ulcers in the mouth. The premature graying of the hair and the spoon-shaped finger nails mentioned by Witts have not been constant findings in the cases I have studied.

Many patients afflicted with chronic anemia of this character show strong tendencies to functional nervous disturbances, rheumatism, and alimentary disorders.

The most characteristic features differentiating this anemia from pernicious anemia are the microcytic character of the cells and a low color index. The blood picture has shown extreme variations in the hemoglobin determinations and erythrocyte counts. The hemoglobin extremes in my cases varied from 26 per cent to 72 per cent, and the red cell counts ranged from 1,240,000 to 3,860,000.

Carcinoma and anemias due to other causes must be carefully ruled out before making a diagnosis of simple achylic anemia. Cases of leukemia, aplastic anemia, and secondary anemia due to parasitic infection usually show only a slightly higher percentage of achylia than is found in normal individuals. The presence of occult blood in the stool and, in women, a history of menorrhagia, must always be carefully considered before making a diagnosis of anemia due to achylia.

It has been pointed out by Sahli and others that iron salts are insoluble in alkaline solutions. The gastric juice normally maintains an acid medium in the upper intestines, therefore favoring the absorption of iron salts and, by the same token, in cases of gastric achylia favoring the development of anemia. In spite of these facts, patients with this type of anemia, although intractable to small doses of iron, clear up rapidly on larger amounts. Witts recommends the use of 30 to 40 grains of iron ammonium citrate three times a day. I have had one case recover after a single transfusion and it is my belief that many of these cases clear up spontaneously.

Hunterian glossitis is another finding frequently encountered in cases of true achylia as well as in pernicious anemia. I have under treatment at the present time a patient who in many ways exemplifies the usual symptoms and manifestations associated with achylia and glossitis. This patient is a man fifty-four years old who developed a very sore tongue six years ago. He complains bitterly of a stinging, burning, raw sensation of the tip and margins of the tongue. He thinks he is improved at the present time since his entire tongue was extremely red, swollen and tender during the first six months after the onset of his illness. He further states that his saliva seems to be thick and ropery, that he has constantly a bad taste in his mouth, and at times has pains in his throat and along his esophagus when swallowing. Sour, hot, or seasoned foods cause him extreme discomfort that may last several days.

With the exception of a severe glossitis, the physical examination of this patient is entirely negative. His tongue is slick and smooth and shows marked atrophy of the papillae. The tip and edges are bright red and quite tender.

The blood examination reveals a hemoglobin of 95 per cent Sahli with a red count of 4,720,000, and white blood cells 7,200 with a

normal differential count. There is no abnormality in the size or shape of the red cells.

He has had repeated gastric analyses with an alcohol meal and histamine. Free acid has never been found and the total acidity of his gastric contents has been low on all occasions. This case undoubtedly typifies in almost every respect the classical descriptions of glossitis associated with achylia gastrica.

Subacute combined degeneration of the spinal cord has frequently been discussed in regard to its association with achylia, achlorhydria and anemia. Lichtheim in 1887 described three cases of pernicious anemia with spinal cord symptoms. Postmortem studies in two of these cases showed degeneration of the posterior columns and, to a lesser degree, similar changes in the lateral columns. These observations were subsequently confirmed by Minnich in 1892 and Nonne in 1895. Risien, Russel, Batten and Collier in 1900 described nine cases of subacute combined degeneration of the cord. Some of these cases developed no anemia through the entire course of the disease, while others developed it only as a more or less terminal event. However, an article published by Collier in 1921 came to entirely different conclusions. He states rather frankly in his later publication that all cases of subacute combined degeneration of the cord, if closely followed, will demonstrate at various times blood changes that are identical with those encountered in pernicious anemia.

Hurst and Bell pointed out in 1922 that subacute combined degeneration of the cord and pernicious anemia were dependent upon the same underlying pathological processes; that is, oral sepsis, achlorhydria and subsequent intestinal infection and intoxication, an etiological viewpoint which has, of course, become obsolete since the advent of liver therapy and the rather recent publications of the splendid work of Castles and associates on gastric studies in pernicious anemia.

In 1923, Douglas Vanderhoof reported 29 cases of combined sclerosis of the cord in 451 patients with achylia. Fourteen of these cases had pernicious anemia, one pellagra, in seven the observations were unsatisfactory and seven were pure cases of the combined sclerosis.

Usually the first symptoms of subacute combined degeneration of the cord are paresthesias of various types, particularly of the hands and feet with numbness and tingling of the fingers and toes. Band-like burning or cold sensations

of the extremities are also frequent complaints. These manifestations may go on for years before the subsequent development of disorders of the deep sensibilities with loss of the localization faculty and subsequent ataxia. The spastic disorder with exaggerated reflexes and incoordination is sooner or later followed by a flaccid paralysis with lost reflexes, muscular weakness, spincter symptoms, decubitus ulcers, and complete anesthesia. I have had an opportunity to follow several of these cases and all of them have eventually developed a more or less typical blood picture of pernicious anemia. We know achylia develops in a great many cases years before any changes are noted in the blood picture. Therefore, it would not seem unreasonable to assume that the same etiological factor might also produce cord changes many months or years prior to the anemia. Pernicious anemia is undoubtedly a generalized systemic disease in which the blood changes are oftentimes only the terminal event in its course.

It is interesting to note that as long ago as 1910, Collier summarized the relationship between the cord lesions and pernicious anemia as follows: "The anemia and the spinal degeneration are therefore related, not as cause and effect but as concomitant effects of a single fundamental pathological process which in the present state of knowledge must be hypothetical." All of us have seen cases of subacute combined degeneration of the cord develop synchronously with pernicious anemia, and no doubt many of us have seen cases time and again that demonstrated the cord lesion or the achylia or the glossitis or the entire triad long before the development of any blood changes.

In the literature and textbooks and in most of the writings on achylia gastrica, gastrogenous diarrhea receives almost unlimited discussion as a frequent symptom in achylia. I am unable to understand why this symptom has received so much attention. It has been one of the most infrequent complaints in the several hundred cases I have had an opportunity to observe. When it does occur, it is usually rather characteristic. The patient most frequently gives a history of five to eight stools in the first two hours after breakfast. Occasionally they have one to three loose stools after each meal, and once in a while the patient will complain of almost constant diarrhea, but this is exceptional. Morning diarrhea is the characteristic feature. Many of these cases also complain of griping pains across the

lower abdomen, burning painful sensations in the rectum, and tenesmus. The passage of mucus is practically always excessive and this usually causes the patient considerable anxiety concerning his condition.

I am of the opinion that the frequency of this diagnosis is often due to insufficient study and observation of the patient, since I have seen several early cases of idiopathic ulcerative colitis that showed transitory achlorhydria. I have under observation at the present time a young woman who gives a history of having had four to six loose stools a day for the past four years. Six months ago she developed an acute exacerbation of the trouble with twenty to thirty stools a day, passing excessive mucus and some blood per rectum. The mucosa of the rectum and sigmoid in this case is granular, hyperemic and swollen. As yet she does not present the classical picture of idiopathic ulcerative colitis, but I have no doubt that she will ultimately develop this condition. When this patient was first seen, there was no hydrochloric acid in the gastric secretion with the alcohol meal and it was my impression that I was dealing with a case of frank achylia with diarrhea. The patient was given large doses of dilute hydrochloric acid with no improvement. Three months later the gastric analysis was repeated and small amounts of free hydrochloric acid were found. The following week another gastric analysis was done with histamine and a normal acid curve was obtained. This patient illustrates how one might be misled in a diagnosis of diarrhea due to achylia if insufficiently studied, as I was dealing with a true case of idiopathic ulcerative colitis, the achlorhydria being only a temporary condition.

Quite frequently we encounter achlorhydria in cases of diarrhea due to intestinal parasites or other infections. Usually the achlorhydria is transitory and improves with the correction of the intestinal disorder.

In recent years Warburg and Jorgensen have published several articles on the subject of "psychoses and neurasthenia associated with achylia gastrica and megalocytosis and the relation between this syndrome and pernicious anemia." I have frequently encountered patients with achylia gastrica who complained bitterly of extreme fatigue. These individuals have had a very definite lowered threshold for physical or mental effort, but I have never observed the psychoses described by these authors except in advanced cases of pernicious anemia.

Seven years ago I became interested in a group of patients whom I chose to classify under a working diagnosis of pre-anemic pernicious anemia. These patients all had a true achylia and most of them presented some other suggestive clue, such as transitory sensory disturbances of the hands or feet, or a vague history of glossitis. In some of the cases I thought there was a slight atrophy of the tongue even though there was no glossitic history. Several of the cases demonstrated from time to time a slight increase in the individual red cell volume although this was not a constant finding in all cases nor in the same case on repeated examinations. Blood studies on some of the patients in this group showed a very slight polycythemia with erythrocyte counts ranging from 5,000,000 to 6,000,000 cells with hemoglobin percentages over 100. It has been very interesting to observe the gradual, yet progressive development of genuine pernicious anemia in some of these cases. There is no doubt in my mind that the old expression that "coming events cast their shadows before them" is very true in pernicious anemia, and that the day is not far removed when the careful observer will diagnose Addisonian disease years and months prior to the onset of the characteristic blood changes.

CONCLUSIONS

Anemia (either hypochromic or pernicious), Hunterian glossitis and subacute combined degeneration of the spinal cord are definite systemic syndromes often encountered in cases of achylia gastrica.

Gastrogenous diarrhea is one of the most infrequent complaints in a study of a large series of cases of achylia.

The use of histamine and neutral red is probably the best method by which a true achylia may be determined.

Careful study of the history, symptomatology and blood findings in patients with achylia will probably lead to a diagnosis of impending pernicious anemia in many cases long before the manifestation of the characteristic blood changes.

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THE CAPILLARY BLOOD PRESSURE IN NORMAL SUBJECTS AND IN PATIENTS WITH ARTERIAL HYPERTENSION

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The results of capillary blood pressure measurements as made by several investigators^{2, 8, 11, 12} have been quite variable, and have been subject to considerable controversy. Numerous methods have been devised and each has received more or less criticism as to its accuracy and its adaptability for clinical investigation.

The purpose of the present investigation was to make a comparative study of the capillary pressure in three groups of individuals: (1) persons with normal cardiovascular systems; (2) patients with benign hypertension and, (3) patients with malignant hypertension.

The literature on this subject, which includes a description of the various methods, has been reviewed by Danzier and Hooker² and more recently by Strax and De Graff.¹²

METHODS

The methods of measurement of capillary pressure fall into two classes: (1) the direct and (2) the indirect. The direct method is obviously the most accurate, but unfortunately is not adaptable to clinical use.⁶ The indirect method of measurement of capillary tension falls into three general types: (A) the method in which the estimation of pressure depends upon the balancing of skin as the end-point^{3, 5, 7} (B) the second method which requires perforation of the skin and measurement of the pressure of the blood as it flows from the puncture wound; and (C) the third method, that employed for this work which depends upon microscopic visualization of the capillaries of

the skin, using as the end-point some phase in cessation of the flow of blood, produced by causing pressure to bear upon the part of skin overlying the capillaries to be examined.

Numerous types of instruments² have been devised to produce the desired pressure at the nail fold in measuring capillary pressure according to the third method. The majority of these devices have been too complicated or too cumbersome for practical work. The apparatus used in this study, was the clinical capillary tonometer, devised by Strax and De Graff (1931). This instrument is accurate and well adapted for clinical use. The apparatus consists of a lever, a spring, a finger rest, and a scale. The lever is approximately 20 cms. long. At one end it contains a circular plate of glass, to which is attached a smaller plate of glass, 2 mm. in diameter. Between the glass and the fulcrum, a screw is inserted into the lever which has attached to it a spring, the other end of which is attached to the base of the instrument. On the lever rests a movable rider, used in calibration of the instrument. The pointer of the lever is close to a vertical scale. A rest is provided for the finger, which can be raised or lowered at ease in a vertical plane to bring the latter into proper relationship to the glass. The instrument is made to fit the base of a Bausch and Lomb capillary microscope. Reflected light is used, the source being an electric bulb and condenser attached to the low power objective of the capillary microscope. The light passes through a green filter and is concentrated at the desired point of examination. The complete apparatus is pictured in Figure 1. The instrument is calibrated so that each millimeter on the scale equals a pressure of 2 mm. of mercury.

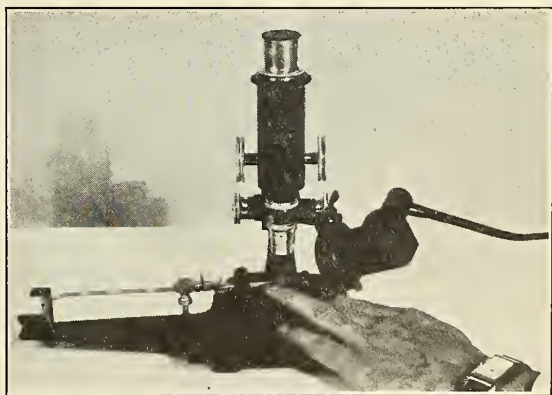


Fig. 1. Clinical capillary tonometer (Strax and DeGraff) mounted on base of Bausch & Lomb capillary microscope.

A typical reading is taken as follows: the patient is usually lying at rest in bed. Constant room temperature is maintained. The fingers should be warm. The left hand is used, well supported at heart level, to obviate differences due to hydrostatic pressure. A drop of cedar-wood oil or glycerin is placed on the finger at the nail fold. The finger is placed on the rest, and raised by means of the screw so that the glass comes in contact with the skin at the nail fold. The light is adjusted and the microscope focused on the capillary bed through the glass. Pressure is applied by means of a screw. When the end-point is reached, the capillary blood pressure is read directly off the mirrored scale in millimeters of mercury. In this series of cases, many capillaries were observed on two or three fingers, and only the most frequently recurring readings were read and recorded, thus giving us the mean capillary pressure for the subject tested.

The criterion used in determining the end-point is the amount of pressure necessary to cause an initial slowing or alteration in the velocity of the blood flowing through superficial medium-sized capillary vessels. The end-point is not difficult to determine, as appreciable slowing occurs rather suddenly. The velocity of flow is little impaired until a certain amount of pressure is applied when a rather sudden slowing is observed. Using the above method for determining the end-point, Strax,¹² Danzier, and Hooker,² and Boas and Mufson,¹ have pointed out that skin texture and elasticity played no appreciable part in the indirect measurement of capillary pressure. Danzier and Hooker have shown that, under standard conditions, there is no variance of capillary pressure from hour to hour and day to day and no diurnal variations.

RESULTS

1. Normal Persons: The control group included thirty individuals with normal cardiovascular systems, and normal temperatures. All the subjects in this group had systolic blood pressures between 90 and 150, and diastolic blood pressures between 50 and 84 mm. of mercury. The group consisted of eleven women and nineteen men, and their ages ranged from twelve to eighty years.

The capillary pressure varied from 8 to 24 mm. of mercury. The average capillary pressure for the group was 15 mm. of mercury. Most of these normal subjects showed capillary

pressures measuring between 16 to 20 mm. of mercury. The capillary loops as observed at the nail fold, were of the straight hairpin variety, however, in older individuals, numerous convoluted loops and other irregular forms were frequently observed. The values for normal capillary pressure found in this series were somewhat lower than those reported by other writers who have used similar methods. This may be explained in part, at least, because the values reported here represent the mean capillary pressure, whereas the figures reported by others represent average capillary pressures.

2. Patients with Benign Essential Hypertension: The cases of benign hypertension were all of the essential (primary) type, accompanied by adequate cardiac, cerebral and renal function at the time of examination. The average systolic blood pressure was 192, and the average diastolic blood pressure, 112 mm. of mercury. The average degree of peripheral arteriosclerosis in these patients was grade 1+. The ophthalmoscopic examination, in the majority of cases, showed a slight to moderate degree of retinal arteriosclerosis. In no case was retinitis or papilledema present. The average age of this group was fifty-three years.

In the thirty-six patients with benign hypertension the capillary pressures varied from 8 to 22 mm. of mercury. The average capillary pressure for the group was 16 mm. of mercury. The close agreement between these figures, and those observed in normal subjects is evident and allow the assumption that the capillary blood pressure in benign hypertension is normal. The capillary morphology in this group differed only slightly from that found in normal subjects. In about one fourth of the cases, definite narrowing of the arterial limb of the capillary loops was observed. In several cases, the capillaries were tortuous and convoluted, but this also was observed equally often in normal middle-aged persons. Intermittency of the blood flow was noted in a few cases. The majority of patients with benign hypertension had normally configured capillary loops.

3. Patients with Malignant Hypertension: In the cases of malignant hypertension, the diagnosis depended largely upon the appearance of the retina on ophthalmoscopic examination. All the patients included in this group had definite papilledema with varying degrees of retinal sclerosis, endarteritis, exudates and hemorrhages. The blood pressure readings in this group tended to be higher than those of the be-

nign hypertensive group, averaging systolic blood pressure of 217 mm. and diastolic pressure of 134 mm. of mercury. The peripheral arteriosclerosis averaged grade II+. The renal function, according to the urea clearance and the phenolsulphonphthalein excretion tests, was lowered but adequate in most cases. In only two cases was the urea clearance below the critical level. The average age of these patients was forty-nine years. With one exception, the erythrocyte count and the percentage of hemoglobin in the blood were within normal limits.

In sixteen cases of malignant hypertension, the capillary blood pressure varied from less than 4 to 32 mm. of mercury. The average capillary pressure for this group was 25 mm. In four of the cases, the capillary blood pressures were slightly elevated but within the limits of normal. In one case the capillary blood pressure was below 4 mm. of mercury and there was almost complete stasis of blood flow through these vessels. In several cases, intermittency of blood flow was observed; this was so extreme in one case that the capillary pressure could not be determined. In ten cases the capillary blood pressures were definitely elevated above the upper limits of normal. On the whole, capillary blood pressure measurements in this group were found to be higher than those observed in normal subjects and in patients with benign hypertension. Examination of the capillaries at the nail fold frequently revealed tortuous and convoluted loops. The blood flow in many cases was distinctly abnormal. In several cases the flow of blood appeared to be restricted only to a few functioning capillaries; the remainder contained blood, but were functionless. A constriction of the arterial limb was noted in some cases and dilatation of the venous limbs was observed in others. In many cases a generalized constriction of the entire loop was present, making capillary pressure measurements extremely difficult because of the marked reduction in the capillary diameters.

The values of the capillary pressure together with the pertinent clinical and laboratory findings, for the three groups are presented in tables I, II, and III. Table IV is a summary of the average values of the preceding tables. Figure 2 shows the comparative distribution of the capillary pressure measurements in the three groups tested. The results obtained in these three groups are entirely comparative, and no

claim is made that these figures represent the actual values for capillary pressure.

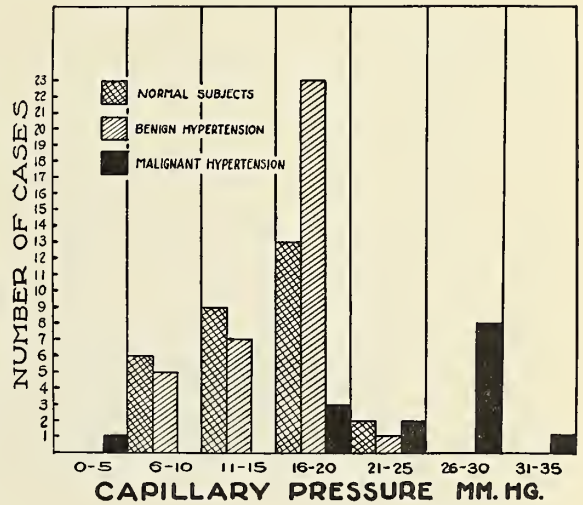


Fig. 2. Frequency distribution of capillary pressure measurements in normal subjects, and in patients with benign and malignant hypertension.

TABLE I
Normal Subjects

No.	Age	Sex	Blood Pressure		
			Systolic	Diastolic	Capillary
	years		mm. Hg.	mm. Hg.	mm. Hg.
1	26	F	96	64	12
2	24	F	110	72	16
3	27	F	106	64	18
4	19	M	118	76	16
5	30	M	126	76	16
6	26	F	126	76	10
7	28	M	120	76	18
8	27	M	126	70	16
9	43	M	130	70	16
10	42	M	90	50	8
11	12	M	90	50	10
12	13	F	96	50	8
13	26	M	120	70	10
14	27	M	120	70	18
15	27	F	90	56	12
16	26	M	106	68	20
17	30	M	116	70	12
18	57	F	130	74	12
19	45	M	130	84	22
20	60	M	126	80	14
21	73	M	150	80	18
22	80	F	150	70	12
23	74	M	150	70	18
24	72	M	130	70	8
25	57	M	120	70	18
26	63	M	126	70	24
27	80	M	120	70	12
28	32	F	112	74	20
29	37	F	150	80	14
30	32	F	126	70	14
Av.	41		113	73	15

TABLE II
Observations on Patients With Benign Hypertension

No.	Age	Sex	Blood Pressure				Peripheral Arterio- sclerosis	Ophthalmoscopic		Capillary Morphology
			Brachial		Capillary	Retinitis		Sclerosis		
			Systolic	Diastolic					Grade		Degree
	Years		Mm. Hg.	Mm. Hg.	Mm. Hg.		Degree	Degree		
1	65	F	160	90	12	II	0	0	Normal loops	
2	74	M	160	95	18	III	0	I	Many corkscrew forms	
3	59	F	170	90	16	I	0	I	Normal loops	
4	36	F	185	95	19	II	0	0	Few convoluted loops—Constriction arterial limbs	
5	58	M	195	115	10	II	0	I	Normal loops	
6	39	M	205	135	14	III	0	I	Marked tortuosity—constriction of arterial limbs	
7	47	F	145	100	22	I	0	0	Normal loops	
8	43	F	200	120	20	I	0	I	Constriction arterial limbs—intermittent blood flow	
9	42	M	200	125	20	I	0	0	Normal loops	
10	64	F	210	118	18	II	0	I	Normal loops	
11	41	M	200	110	20	0	0	I	Constriction arterial limbs	
12	61	F	180	94	20	II	0	I+	Few convoluted loops—constriction of arterial limbs	
13	67	F	250	95	20	II	0	0	Normal loops	
14	62	M	175	84	16	II	0	0	Few corkscrew forms	
15	70	F	190	100	16	II	0	I+	Normal loops	
16	42	F	200	120	16	II	0	I	Normal loops—few functioning loops	
17	62	F	230	120	10	II	0	0	Normal loops—intermittent blood flow	
18	61	F	200	105	10	II	0	0	Normal loops	
19	46	M	190	125	16	I	0	I	Finely constricted arterial loops	
20	56	F	190	95	8	I	0	I	Numerous convoluted loops—constriction of arterial limbs	
21	66	M	220	105	18	IV	0	I	Normal loops—flow sluggish	
22	51	F	192	100	16	0	0	I	Constricted arterial limbs	
23	33	F	185	130	17	II	0	I+	Numerous corkscrew forms—intermittent blood flow	
24	58	M	184	105	18	II	0	I	Few convoluted forms, dilated venous limbs, flow sluggish	
25	25	F	245	140	19	II	0	I+	Long narrow loops	
26	55	F	250	140	12	II	0	I	Normal loops	
27	52	M	190	120	18	III	0	II+	Slight tortuosity	
28	50	F	174	104	14	0	0	I	Normal loops	
29	54	M	170	105	14	I	0	I	Normal loops	
30	61	F	182	100	20	II	0	II+	Normal loops	
31	59	M	180	104	14	I	0	I+	Normal loops	
32	49	F	210	110	14	I	0	I	Poor filling of loops	
33	55	M	200	105	18	I	0	I	Constricted arterial limbs	
34	58	M	160	96	10	III	0	I	Normal loops	
35	49	F	210	110	10	II	0	I+	Normal loops	
36	40	F	220	110	16	I	0	I+	Normal loops	
Av.	53		192	112	16	I+				

TABLE III
Observations on Patients With Malignant Hypertension

No.	Age	Sex	Blood Pressure			Arterio- sclerosis Grade	Ophthalmoscopic		Capillary Morphology
			Brachial		Retinitis Degree		Sclerosis Degree		
			Systolic Mm. Hg.	Diastolic Mm. Hg.					
1	45	F	265	140	?	III	II+	III	Markedly intermittent blood flow—unable to determine capillary pressure
2	46	F	200	102	27	II	II+	I	Normal loops
3	55	M	208	112	25	II+	I	I+	Some intermittent blood flow. Numerous convoluted forms
4	55	F	190	110	29	II	II+	II+	Long straight narrow loops
5	52	F	240	125	27	II	I	III	Constriction of arterial limbs. Rapid flow
6	48	M	210	135	30	IV	III	III	Constriction of arterial limbs. Dilatation of venous limbs
7	66	M	200	100	28	III	I	I+	Tortuous loops, many corkscrew forms
8	44	M	200	130	20	I	I+	III	Few convoluted forms
9	53	F	155	105	28	III	I+	II	Constricted arterial limbs, rapid flow
10	67	F	198	115	28	II+	I+	III	Poor filling of loops, numerous convoluted forms
11	43	M	260	184	30	III	II+	III	Numerous convoluted loops
12	42	F	222	160	—4	II+	II	III	Marked cnvolution of loops, almost complete stasis
13	23	F	265	145	20	II	II+	I	Normal loops
14	52	M	210	140	22	IV	I+	I+	Some tortuosity of loops
15	34	M	205	130	20	I	II+	II+	Normal
16	48	M	300	165	32	II	III	I+	Arterial and venous limbs dilated and tortuous
Av.	49		217	134	25	II+			

TABLE IV
Table of Average Values

Subjects	No. of Cases	Age	Blood Pressure		
			Systolic	Diastolic	Capillary
			Mm. Hg.	Mm. Hg.	Mm. Hg.
Normals	30	40	113	73	15
Benign hypertension	36	53	192	112	16
Malignant hypertension	16	49	217	134	25

DISCUSSION

The finding that the capillary blood pressure measurements and the capillary morphology in patients with benign hypertension differs very little from that observed in persons with normal cardiovascular systems is in accordance with the results reported by other investigators.^{1, 3, 9, 10} This indicates a normal status of the circulation in the capillaries in spite of the elevated arterial blood pressure in these patients. Thus the resistance in the vascular circuit, in hypertension of this type is not in the capillary portion of the vascular tree, but must be present somewhere proximal to these vessels. Ellis and Weiss,³ have shown that the resistance lies in the arteriolar portion of the arterial system.

The explanation for the high capillary blood pressure findings found in malignant hypertension must be made on a purely hypothetical basis. The diastolic blood pressures in this group were higher as a rule than those observed in the group with benign hypertension. However, there appeared to be no definite relationship between the magnitude of the pressure in the capillaries and that of the diastolic pressure in the brachial arteries. There was no association of the finding of increased capillary blood pressure with any signs of renal failure, although in a few cases renal damage was evident.

Increase in the capillary blood pressure can only be brought about by (1) active vasodilatation of the arterioles and precapillary vessels, (2) increase in the venous pressure with a damming back of the blood into the capillaries and, (3) by actual vasoconstriction of the capillaries themselves. A dilatation of the arterioles would appear to be unlikely, for in hypertension peripheral vasoconstriction of these vessels is generally thought to be the mechanism in operation. An increase in the venous pressure could not have been a responsible factor as this was evident in only one case, in which the patient

presented signs of congestive heart failure. The only plausible explanation would appear to be that of capillary vasoconstriction. The capillaries are known to be capable of independent vasoconstriction by means of their contractile Rouget cells, and it is quite possible that in malignant hypertension, there is a generalized vasoconstriction affecting the capillaries as well as the arteries and arterioles. The frequent finding of irregularly convoluted capillary forms and abnormalities in the capillary blood flow, would be suggestive of the presence of increased stress and strain in these vessels.

Histologic studies on the capillaries in malignant hypertension, show no actual structural changes in the walls of these vessels, according to Keith, Wagener and Kernohan.⁴ They report striking medial hypertrophy and diffuse changes in the walls of small arteries and arterioles. The high capillary pressures observed in the present investigation could be due to presence of structural changes in the arterioles, making these vessels equivalent to a set of rigid tubes that would be less effective in reducing the head of pressure existing in the larger vessels and thus allowing a greater impact of pressure against the capillaries. Any one or a combination of these factors might possibly explain the increased capillary blood pressure in malignant hypertension.

(References on Page 438)

ASTHMA DUE TO HOUSE DUST

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and

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Kansas City, Missouri

House dust may be either a primary cause of respiratory allergy, that is, capable of initiating symptoms by itself or it may be a secondary factor, that is, it produces symptoms only in combination with other etiologic agents. The following case record illustrates asthma due to primary house dust sensitization.

Miss E. E., aged 30, was seen in November, 1932, because of perennial asthma and vasomotor rhinitis dating to early childhood. These diseases were worse during the winter months.

Physical examination revealed an increase of the anterior-posterior diameter of the chest and some rounding of the shoulders. The inferior turbinates were large, boggy and bluish gray in color.

Skin tests were made to the various foods, epithelials, dusts and pollens, with many def-

inite reactions. Treatment was outlined on the basis of these reactions and she was instructed to keep a diary. There was immediate, but not complete improvement. A study of her diary indicated the following facts: (1) She was always worse in her home (2) She always improved while out of the house, or upon leaving home, regardless of the temperature outside. (3) There was a definite increase of wheezing when she sat in one particular chair; when about the davenport and upon retiring. (4) Dusting and sweeping increased symptoms.

These four facts with the history of improvement during the summer suggested house dust sensitization and fourteen samples were collected according to the method of Cohen.¹ Scratch tests were positive to four, and intradermal tests demonstrated that 0.05 cc. of the 1:10,000 dilution would produce both asthma and vasomotor rhinitis.

Treatment with this extract along with food elimination produced definite improvement until in March, 1933, when she had difficulty again. These attacks were due to milk and upon its elimination she improved and since then has been practically free of symptoms the past 20 months.

COMMENT

The cardinal symptoms of house dust sensitization are well illustrated by the four observations in this patient's diary and the history that symptoms are worse in the winter.

In this instance sensitivity to house dust was suggested by certain features of the history. While this probability was enhanced by scratch reactions to the various samples of dust, the diagnosis was based upon the fact that the original symptoms could be reproduced at will, by injection of the dust extract.

The composition of house dust is such that it is apt to give reactions in many individuals. This is especially true with intradermal tests. Unless one can obtain scratch positives and there is a history of house dust sensitization, skin tests should not be considered significant.

We wish to emphasize the importance of the diary kept after the patient had started treatment based upon skin tests. Masking of some etiological factors by the effects of multiple sensitizations is very common. It is only after some of the specific factors have been removed, that the relation of cause and effect of many others are first revealed.

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EDITORIAL

Editorial Mast Information on Page VI

THE NOVEMBER JOURNAL

The editorial board has made certain changes in content and style in this issue of the JOURNAL, subject to your approval. These have been adopted after a thorough study of other available medical publications and an effort has been made to consolidate traditional ideas, original ideas, and ideas of others. Although changes are frequently a matter of opinion, with the new not equal to or better than the old, it is believed that advancement comes only through a process of trial and error.

You will note that the type has been slightly varied, since it was believed space could be conserved without sacrificing readability. Several sections have been omitted to make more space available for original articles. Scientific articles and news material have been differentiated by a section of "News Notes." The editorial section will contain invited and contributed editorials in the interest of creating a forum for members. Advertising has been rearranged to afford stronger appeal to advertisers with the hope of ultimate increased revenue.

Other additions are contemplated, but could not be perfected at the present time, pending settlement of certain problems. A new cover, for instance, without front advertising, will appear on the January issue. Several new sections are being considered, and additional pages are desired as soon as financially possible.

The board hopes you will like the new edition, and invites your suggestions and criticisms.

ASSOCIATE EDITORS

A perennial problem concerning state medical journals is the varied interests of different localities, and a difficulty always present is the issuance of a publication universal in appeal and representative of all sections of a state.

In an effort to solve this difficulty, a plan was adopted whereby a staff of associate editors, from all parts of the states, was selected to act as representatives of the JOURNAL in their area, to assist in securing worthwhile material from members, and to take as their personal responsibility the certainty that all parts of the state are equally represented.

Details in connection with actual issuance of the JOURNAL will, by necessity, fall upon the editorial board, but through mediums of correspondence and occasional meetings it is thought the above objective can be attained.

The following members of the Society have accepted appointments as associate editors, and it is desired that their services be utilized to the fullest extent.

Murray Eddy, M.D., Colby
 C. L. Hooper, M.D., Dodge City
 H. E. Marchbanks, M.D., Pittsburg
 Donald N. Medearis, M.D., Kansas City
 Philip W. Morgan, M.D., Emporia
 Fred J. McEwen, M.D., Wichita
 L. S. Nelson, M.D., Salina
 R. T. Nichols, M.D., Hiawatha
 Thomas G. Orr, M.D., Kansas City
 George Paine, M.D., Hutchinson
 John N. Sherman, M.D., Chanute
 Howard E. Snyder, M.D., Winfield

PROFESSIONAL CARDS

Considerable consideration has been given to the pros and cons of continuing the section of professional cards in the JOURNAL. The main argument in their favor has been that a certain amount of income is received from their source. The rebuttal is that it is not democratic, since all cannot use the space, and that it is an additional tax on members who are already supporting the paper through their dues. It has finally been decided to discontinue this advertising section with the January issue, at which time refunds will be made on unexpired contracts. In the meantime contracts expiring will not be renewed. It is hoped that this change will meet with the approval of the Society.

HOBBIES

The doctor's avocation is an important topic for consideration. Physicians should cultivate some interest apart from their work. But unless leisure is planned and self discipline exercised, the medical man can seldom become proficient in an avocation without sacrifice. Self expression through the creative arts and crafts should be found often among members of a profession as high in intellectual interest as that of medicine. "Man is only half himself, the other half is his expression."

Today, in the United States we are seeing a revival of art and a growing emphasis upon the importance of art, not for the critic and the "arty," but for all who are capable of deriving spiritual nourishment through the beautiful.

There are many eminent examples of high attainment in the arts by members of our profession. Doctor Frederick Banting is considered an exceedingly competent painter in oils. Doctor John Oliver, a physician and teacher in Baltimore, is the author of several highly successful novels. Sir James MacKinsey, one of the busiest of physicians, wrote three or four novels during his most active years.

There can be no doubt that there are many Kansas physicians who practice an art or craft in their leisure hours. This should be encouraged. It should be given official encouragement by the State Medical Society. We suggest that at the next state meeting, a space be given for an exhibition of the art work of members of our state Society.

THE PHYSICIAN AND HIS HOSPITAL

The hospital holds quite a unique position in any community. It is a non-partisan organized health center to the populace which it serves. Its doors are open at all times to aid in the betterment of the health of its community, both through its physical facilities and its organized staff. The public expects all of the hospital. We, as physicians, associated with the hospital either as a member of its regular or courtesy staff expect too much of the hospital. We expect the hospital to welcome our patients

with open arms, feed them, clothe them, and to administer to their wants without much consideration as to when and how the bill is going to be paid.

An individual who has been a patient in a hospital and has left without paying his bill is a charity patient. He is a liability as far as the hospital is concerned. Possibly the entire bill has to be collected through a collection agency at the rate of 50 per cent. Still the patient is a liability for he owes the hospital for services for which it has not been duly reimbursed, and the physician should not object to the hospital authorities placing the patient in accommodations suitable to their means or desire to pay as long as such accommodations are not incompatible with the physical welfare of the patient.

Each hospital has certain regulations drawn up in accordance with suggestions of the American Hospital Association, the American College of Surgeons, and certain local considerations peculiar to the community and the medical staff it serves. These regulations cover service, medical records, visiting hours, accommodations for extra individuals remaining with the patient and many others too numerous to mention. The physician should acquaint himself with these regulations and follow them to a letter. Hospital medical records are required by the hospital for the purpose of defending itself and the physician attending a patient against legal claims, to determine the rating of individual physicians on the staffs from the standpoint of efficiency of diagnosis and efficacy of treatment and to maintain the rating of the hospital as outlined and rated by the American College of Surgeons. Records should be completed promptly and thoroughly for time erases from the mind of the attending physician many rather important details, which may be of utmost importance should legal proceedings be instituted. Any special requests by the family or friends of a patient should be directed by the physician to the managerial staff of the hospital unless he is absolutely sure that such a request does not violate the rules of that hospital.

The fact that a physician is a member of the

staff of a reputable hospital gives him a certain standing in the community. The hospital stands back of a physician in his professional relationship to the patient. So why don't we as physicians stand back of the hospital instead of putting it and its managerial force on the spot?

FALSE AND MISLEADING MATERNAL STATISTICS

Condensed from an editorial in Illinois Medical Journal

Any comparison of international mortality statistics is ridiculous unless a standard international yardstick is used in the computations of the statisticians. In 1926, publication 158, written and published by Robert Morse Woodbury, Ph.D., was issued and entitled "Maternal Mortality." On page 58 of this pamphlet appears this apologetic statement: detailed study of the results, applying the United States rules instead of the English rules to the deaths in England and Wales in 1920, indicate that the rate in England and Wales would have been increased by about 15 per cent if the United States rules had been applied.

Now in 1920, in the United States, deaths incidental to child birth totaled 7.99 per 1,000 women who survived confinements. The figure in England and Wales totaled 4.33 per 1,000 by English rules. When the United States rules are applied to the rate in England and Wales, the mortality is raised to about 5 per 1,000. This is still some 3 per 1,000 higher in the United States than in any theoretically comparable country.

But bear in mind that this difference lies largely in the yardstick rather than in the cemetery. The United States is handicapped by a large negro population, existing as a poor material risk because of contracted pelvis due to rickets, to the poor general state of hygiene and to the incidence of venereal disease, always high in the colored race. Compare the figures that show that in 1921 among the white people the maternal mortality was 6.6 per 1,000, and among the negroes 10.8 per 1,000.

Another idea for the distortion of the American mortality statistics lies in the fact that statisticians in Washington fail to differentiate between the deaths from natural confinements and deaths from abortion, of which in this country a great number are performed. Many women attempt abortion upon themselves, involving a hazard equivalent to suicide. The risk is scarcely lessened at the hands of law breaking physicians or midwives. Dr. Julius Levy of the Newark Health department after investigation of the local mortality for the years of 1924, 1927 and 1928 came to the conclusion that in the cases that he investigated abortion caused maternal death in 20 per cent of all cases and 60 per cent of all cases under six months. These deaths do not form any part of the normal hazard of giving birth to children and should be tabulated separately. To saddle the medical profession with the blame for the mortality from operations done by the patient herself or the outlaws of the profession is manifestly unjust. A proper correction of the maternal mortality rate would show that while it is not the lowest in the world, it is less than the average of all countries. The lowest rate seems to be in the Scandinavian countries and because abnormal cases are extremely rare, women are better risks and a contracted pelvis is exceptional.

The general practitioner is amply qualified to handle about 90 per cent of all cases. Fair risks may be turned into good risks by efficient prenatal care. Poor risks are best turned over by the family physician to a specialist before the condition of the patient becomes perilous, whether the case is one of toxemia or contracted pelvis.

The New York Obstetrical Society disagrees with the New York Academy of Medicine in sending a report of destructive criticism to the lay press, instead of a pamphlet of constructive criticism to the profession stressing proper prenatal care, aseptic technique and the avoidance of meddlesome examination and instrumentation.—L.R.P.

MEDICAL SCHOOL CLINIC

MANAGEMENT OF CHILDREN EXPOSED TO SCARLET FEVER*

FRANK C. NEFF, M.D.

Kansas City, Missouri

With a Note on the Culture of the
Streptococcus Hemolyticus

CECIL G. LEITCH, M.D.

Kansas City, Missouri

This discussion is prompted by the question which is asked of the physician not infrequently: what should be done for the member of the family who has just been exposed to scarlet fever?

I wish to recall briefly the recent attitude towards scarlet fever immunization. Eleven years ago the experimental work done by George F. Dick and his wife Gladys H. was made known to the profession. Many physicians enthusiastically accepted the methods they suggested. Some have received it with doubt. The public soon learned of the possibility of making children immune by simple injection of a toxin, comparable to the method which had proved successful against diphtheria. In Kansas City organizations urged that all children be immunized to scarlet fever as well as to diphtheria and smallpox.

As a measure for use in private practice and for routine school immunization it was soon found that there were some drawbacks to attempting this seemingly formidable procedure. A series of several injections at weekly intervals, the occurrence of considerable reaction with one or more of the doses, in some instances vomiting, sometimes a rash resembling scarlatina, made many parents fearful and unwilling to permit the injections. Most physicians after a little experience with unpleasant reactions from the series of three doses which were advised when the work started, were unwilling to use the method, preferring to wait until more experience had perfected or refined the technic. In recent years in Kansas City there has been no general attempt toward protecting children from this disease. But the accuracy of

the Dicks' discoveries has now been confirmed by observers over the world. Each year for the past ten, in teaching the classes in this school, I have advocated immunization to scarlatina. Members of the senior classes have been tested for scarlet fever susceptibility. The results of the Dick test have always checked with the previous history of the individual regarding scarlet fever. Each year I have immunized a larger per cent of my private patients. Undoubtedly the methods will come into a more general use if the whole procedure can be simplified.

NATURE OF THE EXPOSURE

When you are told that your child has been exposed, you should try to find out definitely if the case is really scarlet fever. The typical red throats and definite rash are easy to diagnose. In some instances sore throat is the only symptom, with the exception of fever. These represent instances of scarlatina sine eruptione, or the rash may appear late. We had such a case of tonsillitis more than once in this hospital which was responsible for a spread of scarlatina. Not uncommonly there will be a light rash without obvious sore throat but with the initial vomiting. Such cases are often passed off as food or drug rashes. Recently a mother was much frightened by the school nurse who called at the home to see why the child had not come to school. To the nurse the rash suggested scarlatina, but it proved to be urticaria; and in a few days was followed by the lesions of chickenpox.

PRELIMINARY TESTING OF ALL CHILDREN

From my own experience I recommend that on a certain day each month, you should do Dick tests on your young patients whose susceptibility you do not know. You then have a record of the children so that if they are Dick-negative there need be no fear of acquiring scarlet fever infection. If a Dick skin test were done routinely the handling of the question of exposure would be much easier. As soon as the medical profession becomes more familiar with the reliability of the Dick test reaction, its usefulness will be appreciated. Persons shown to be immune by the Dick test do not need to be given active immunization or passive immunization with scarlet fever antitoxin. The routine injection of prophylactic antitoxin to all contacts would be unnecessary and unjustified.

SPONTANEOUS IMMUNITY

How does one get immunity naturally if he has not had scarlet fever? He can get immunity

*Department of Pediatrics, School of Medicine, University of Kansas. Read at the Postgraduate Clinic, April 3, 1934.

if he has had repeated sore throats which have been due to scarlet fever streptococci even if no rash has been present. I imagine that the average physician gets his immunity in this way or by repeated contacts. This immunity will hardly be as complete as that which comes from a typical attack of scarlet fever with a bright rash. Immunity may be due to an unrecognized attack, as mild cases are sometimes overlooked. Lasting immunity is maintained by antitoxin in the body which will continue to be produced through life.

Susceptibility depends upon the age of the individual and the previous exposures. In city children from crowded districts approximately fifteen per cent are positive. In country children sixty per cent are positive.

HOW IS SCARLET FEVER CARRIED?

Scarlet fever is transmitted by droplets of patient's breath which carry the streptococcus through the atmosphere. The immune person may therefrom become a carrier, who does not become infected because of the presence of antitoxin in the blood. In susceptible individuals the organisms which lodge in the throat, nose, possibly in the sinuses, grow, produce toxin and the typical symptoms of scarlet fever. Toxin alone injected into the body of a susceptible person does not produce infection but it causes fever, vomiting and a rash of brief duration.

When a child comes in contact with scarlet fever, isolation of the child from further exposure is one of the first efforts to make against contracting the disease. Quarantine is maintained to keep non-infected individuals away from the one infected, and until active immunization of the contact can be completed.

In the Dick's most recent communication¹ the interesting statement is made that not more than ten per cent of those who are contacts get the disease. In institutions and wherever contact lasts most of the 24 hours, 50 per cent of the individuals get the disease if the epidemic is prolonged. In such an epidemic most all susceptibles finally get it. In one instance I knew of a mother who had the nursing care of her child with scarlet fever and did not get the disease until the end of the fourth week. Aseptic nursing will usually prevent spread of the disease to other members in the household.

The desquamation stage (scaling) probably never transmits the disease through the scales alone. The skin of a scarlet case gives a negative Dick test by the 21st day, and the serum

from the patient's blood at that time may safely be used for passive immunization or for treatment against scarlet fever.

After exposure, a Dick test should at the earliest opportunity be made, and read in 20 hours. If it be possible to make a culture from the nose and throat at the same time, the Dicks advise that this be done. However, the outcome of the Dick test can be awaited if the test was made within a few hours after exposure; if it prove negative the culture need not be made. If both test and culture, however, are found to be positive the individual is considered infected and may get the disease. The injection of serum (scarlatinal antitoxin) may then be done and can be expected to give transient protection according to the Dicks. However, I would refrain from sensitizing an individual unnecessarily to horse serum by giving antitoxin unless it is absolutely indicated. I know of one anaphylactic death from scarlet fever serum in a previously serum-sensitized child.

If the cultures are negative, while the Dick test is positive, active immunization with the Dick toxin solution of five doses should be begun.

After exposure there is always some anxiety until the incubation period is safely passed. The following percentages give an idea as to the time when the disease may be expected:

Three or four days	about 38% of cases
Two days	13%
Within 24 hours	5%
An incubation period of four days or less make up	56% of cases

The remainder or 44 per cent of the cases will have an incubation period varying up to seven days, rarely longer. You can, therefore, reasonably assure your patients that after one week the chance of getting the disease is small.

INTERPRETATION OF THE SKIN TEST REACTION

One gives an intradermal injection of one-tenth c.c. of the Dick test solution. It is well, as a matter of routine, to use the anterior surface of the left forearm.

Duration of reaction: This is transient, making it necessary to do the test one day and read it the following day within 20 to 24 hours after injecting the test solution. For instance, if the test is done in your office at 4 p. m., it is read the next day sometime between 12 noon and 4 p. m.

Size: The reaction is interpreted positive if it is as large as one cm. in any diameter. It may

be in some cases 5 cm. in diameter. The test area is not indurated nor elevated as in the Schick test.

Color: Susceptibility to scarlet fever is shown by a red color, even the faintest red, but an intense red means less immunity (more susceptibility) than the faint ones. Any shade of red is positive as far as color is concerned. No control test is necessary as pseudo-reactions do not occur.

The following table summarizes the time required for scarlet fever immunization:

1st day—Dick Test performed			
2nd day—Dick Test read			
2nd day—1st dose—	500	Skin Test Units	
7th day—2nd dose—	2,000	" "	" "
12th day—3rd dose—	8,000	" "	" "
17th day—4th dose—	25,000	" "	" "
22nd day—5th dose—	80,000	" "	" "
29th to 36th day—	Dick Test repeated which if negative proves the development of immunity.		

General Reactions From Active Immunization Following the Individual Dose of Toxin Solution: If the patient is susceptible a reaction of a general nature is common. It comes on in a few hours, and has disappeared the next day. In office patients it is not uncommon to learn from the mother that the child vomited soon after reaching home, that fever occurred and malaise was present.

Reactions are less common since the doses are carefully graduated into five injections, the first and second doses extremely small. The last dose of 80,000 skin test units finds the child prepared and inured to its introduction and presence in the body so that reaction is rare.

The duration of artificial immunity from these injections of graded doses of toxin is not yet known, but the Dicks believe that it lasts as long as that following diphtheria toxoid injections.

The Dicks recently report that among 12,584 persons who gave positive skin tests in institutions where epidemics prevailed, active immunization with graduated doses of toxin was performed. These persons were followed up, and no case of scarlet fever developed. In 3,000 susceptible attendants, nurses and internes, who were made immune, then assigned to duty in a scarlet hospital, no one got the disease.

Trask and Blake² have just described the finding of a new strain of hemolytic streptococcal scarlatinal toxin in pleural exudate of pneumonia accompanying scarlet fever. This toxin

was not neutralized by the usual antitoxin for scarlet fever and they believe that when antitoxin has failed to produce results in severe scarlatina the cause has been a heterologous type of toxin of scarlet fever. Dr. Wadsworth has, however, prepared a polyvalent antitoxin which neutralizes both this new unusual toxin and the standard Dick toxin. Heterogenicity (dissimilarity of elements), does occur in toxins in the blood of scarlet fever patients, and in the scarlatinal antitoxin found in convalescent serum of man; it is probable, therefore, that with a completely polyvalent serum, therapeutic results will be greatly improved, as polyvalency has been found necessary.

SUMMARY

The routine testing of all children in one's practice, before exposure has occurred, will at once identify immunes and susceptibles. Immunization of the latter group will make it a matter of no concern when contact with scarlet fever occurs.

The supposed case of scarlet fever to which the child has been exposed should be investigated so that the correct diagnosis may be known.

Further contact with a true case should be prevented by removing the child from its environment. Aseptic nursing of scarlet fever should always be carried out.

Immediately after known exposure a Dick test should be done, and the reaction read within 20 to 24 hours. A negative reaction calls for no concern, though contacts could well be cultured for a possible carrier state.

If there are both a positive reaction and a positive culture the individual is infected and may soon come down with the disease. A dose of anti-scarlatinal serum may then be advisable, and should prevent the disease if not given too late. Serum sickness is the objection to the use of serum.

A positive reaction and a negative culture indicates the advisability of complete removal from the sick room or infectious environment, and the prompt administration of the series of toxin injections for active immunization.

I believe that the injection of this toxin specifically has the power to stimulate the development of antitoxin in the body. The method is rapidly increasing in its use after several years of trial and refinement of technic.

Private practice lends itself much better to

the performance of scarlet fever immunization than do public health attempts.

In conclusion I would emphasize that there is much that can be done by the physician, if there has been exposure of a child to a case of scarlet fever.

REMARKS BY DR. LEITCH

In the handling of cases of scarlet fever, the laboratory and its facilities may play an important part. This aid may be either in the diagnosis or in the management of control, especially by quarantine.

As concerns diagnosis, assistance may be given in the culturing of suspicious throats with the demonstration of hemolytic streptococci in nose and throat cultures on blood agar plates. The painstaking investigation of numerous workers concerning this disease has shown a hemolytic streptococcus as the etiological factor, the infection being located in the naso-pharynx. The toxins resulting from this localized infection produce an exanthem. Acute sore throats associated with hemolytic streptococci demonstrated on blood agar media should presumptively be considered scarlet fever.

Plates used in these cultures are prepared by adding 5 c.c. of defibrinated blood (sterile) to 100 c.c. of melted sterile agar at about 50 degrees centigrade. In pouring the plates, one uses about 12 c.c. of media per plate. These plates can be kept for considerable time in an ice box. The hemolytic character of the growth is indicated by hemolysis of the blood in the media along the line of inoculation of the media, the inoculation having been made by the continuous streak method on the surface of the media.

In the management of contacts, cultures of the nose and throat can be used in conjunction with the application of the Dick test. Contacts of a diagnosed case are subjected to the Dick test and cultures are made on blood agar plates of the nose and throat. This procedure, of course, predicates the use of antitoxin in the rapid passive immunization of susceptible contacts based on the positive reaction to the Dick test and the demonstrable presence of hemolytic streptococci in the cultures from the naso-pharynx.

By the immediate culture of the nose and throat and the application of the skin test for susceptibility, and the use of antitoxin prophylactically in infected susceptibles it is possible to bring an epidemic of scarlet fever under control within seventy-two hours. An infected susceptible is considered one in whom the hemolytic streptococci are demonstrated in cultures from the nose and throat by the use of blood agar plates.

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2. Trask and Blake, *Heterologous Scarlet Fever*, Trans. Section on Pediatrics, A.M.A. p. 94, 1933.

THE LABORATORY

THE CONVALESCENT DIPHTHERIA CARRIER

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The striking response to the use of diphtheria antitoxin usually obtained in cases of diphtheria naturally leads to the assumption that since the antitoxin has caused the disappearance of the membrane and the subsidence of the clinical manifestations of the infection, it has also eliminated the diphtheria bacillus from the patient's nose and throat. Unfortunately, this is not true. Diphtheria antitoxin merely neutralizes the toxin produced by the diphtheria bacillus, it has no bactericidal effect on the organism and this is demonstrated by the fact that the diphtheria bacillus grows luxuriantly in diphtheria antitoxin.

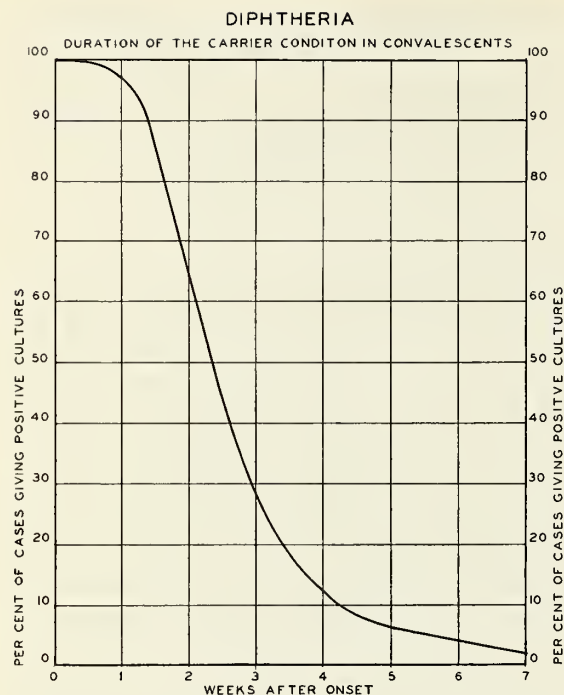
Other factors or substances, than diphtheria antitoxin, are needed to eliminate the diphtheria bacillus from the site of infection after the symptoms of the disease have subsided. These substances are apparently a product of the body of the patient and since individuals vary widely in their ability to produce such substances some convalescents remain carriers of the organism for considerable lengths of time.

The records of one large city combined with tabulations from the writer's experience, representing more than two thousand cases of diphtheria, show the diphtheria bacillus has disappeared from the throats of the majority of convalescents by the end of the third week after the onset of the disease but it continues to persist in a small per cent of cases for considerably greater lengths of time. These results are shown in the following table and the normal expectancy for release from quarantine is shown graphically in the accompanying chart.

The Release of Diphtheria Quarantine

Week after onset	Per cent of cases released
1	3
2	36
3	71
4	88
5	94
6	96
7	98

*Bacteriologist in Charge Public Health Laboratory, Kansas State Board of Health, Topeka, Kansas.



The physician may expect an occasional patient will harbor the diphtheria bacillus for a considerable length of time. The two per cent of patients who will still be carrying the organism at the end of the seventh week after the onset of the disease represent the usual incidence of carriers to be found in a normal population when diphtheria is not prevalent. These chronic carriers usually have some pathology in the upper respiratory tract which accounts for the persistent carrier condition.

Numerous methods of local treatment for clearing the throat of diphtheria bacilli have been reported but their use in large groups of cases indicates they have little or no value and no one method can be recommended as at all superior to any other. Occasionally such treatment will give the patient's system just enough assistance to enable it to rid itself of the organism but the results obtained are never consistent. The deciding factor in the elimination of the carrier condition in diphtheria convalescents seems to be that combination of obscure factors commonly termed "general resistance" and steps should be taken to improve the patient's general physical condition as soon as possible.

A virulence test may be made in chronic carrier conditions to determine whether or not the strain of the diphtheria bacillus still persisting in the patient's throat is capable of causing

clinical cases of diphtheria. The virulence test has the disadvantages of being expensive and time consuming since it employs guinea pigs and diphtheria antitoxin and requires from three to five days for the completion of the procedure. Nearly ninety per cent of diphtheria convalescents will have been released from quarantine at the end of the fourth week after onset by means of two negative nose and throat cultures. A virulence test is not indicated, therefore, until at least twenty-eight days after the onset of the disease since when the test is started earlier, two negative cultures are frequently obtained before the test is completed or the organism is found to be virulent. In either case the time and money involved in the test are wasted so far as the release of the patient is concerned.

PRESENT ENDOCRINE DIAGNOSIS AND THERAPY: CRITICAL ANALYSIS BASED ON HORMONE STUDIES IN FEMALE

Robert T. Frank, Morris A. Goldberger and Frank Spielman, New York (J.A.M.A. Aug. 11, 1934), state that quantitative hormone studies show the humoral status before and at puberty, during maturity and after the menopause. Functional genital disturbances are of two types—underfunction and overfunction. Both types are primarily due to disturbances of the anterior pituitary cycle, the ovarian cycle being secondarily affected. Emphasis is placed on the accurate "size up" of the individual studied and on other laboratory aids which help in the recognition and evaluation of congenital and acquired endocrine stigmas. Examples of spontaneous recovery without treatment are featured, as, in the authors' opinion, they account for the majority of successes currently ascribed to endocrine therapy in functional genital disturbances of the female.

(Continued from Page 430)

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MEDICAL LITERATURE

Edited by
WILLIAM C. MENNINGER, M.D.

DERMATOLOGIC DIAGNOSIS

The author has collected the incidence of various dermatological diseases in 1,112,050 cases. The six ranking diagnoses, include eczema, impetigo, scabies, psoriasis, acne, and urticaria. The author calls attention to the fact that the percentage of each of these differs slightly from previous statistical studies of a similar nature, despite the fact that previous studies were made in the same clinics among the same class of patients, of like economic status, and living under the same environment. He makes no conclusion from this fact.

Aohrweide, A. W., Recent Changes in Dermatologic Diagnosis. *Archives of Dermatology and Syphilology*. 30:260-263. (August) 1934.

CEREBRAL BLOOD FLOW IN EPILEPSY

By a series of ingenious experiments, these writers from the department of neuropathology of Harvard, have shown that in ten patients there was no evidence of a significant reduction in blood flow immediately preceding the onset of convulsive seizures. During severe seizures there was a great increase in flow but the changes were the result rather than the cause of the seizure. This is very conclusive evidence against the theory of a widespread anemia of the brain as the immediate cause of epileptic seizures.

Gibbs, F. A., Lennox, W. G. and Gibbs, E. L., Cerebral Blood Flow Preceding and Accompanying Epileptic Seizures in Man. *Archives of Neurology and Psychiatry* 32:257-272 (August) 1934.

ACETARSONE IN CONGENITAL SYPHILIS

The writer who reports from the Department of Pediatrics of the Jefferson Medical College, recommends acetarsone as well tolerated by infants and children in the treatment of congenital syphilis. It is a white crystalline powder, easily soluble in water and given by mouth. He gives it 0.005 grams daily for each kilogram of body weight for the first week; for the second week 0.010 grams; for the third week 0.015 grams; and for the following six weeks 0.020 grams. It is given in milk one-half hour before feeding; when the quantity is small once daily, but with larger doses given two or three times daily. He has found it extremely effective for young infants both ren-

dering them symptom free and causing the serologic reactions to become negative. He believes acetarsone to be superior to bismuth in bringing about an earlier reversal of the serum reaction.

Coppolino, J. F., Acetarsone in the Treatment of Congenital Syphilis. *American Journal of Diseases of Children*, 48:272-280. (August) 1934.

PROLONGED USE OF BARBITURATE

Hoge reports a case of a woman who for a period of seven years took from three to four amytal tablets every day. He saw her at the end of this time and upon examination she showed only a few subjective nervous symptoms, a moderate tachycardia and a slight anemia. He has commented on the point that surprising little harm had been associated with this very prolonged over dosage of a barbiturate. He does not give any follow-up and fails to point out specifically that the tachycardia was one of the original motives for taking the drug.

Hoge, S. F. A Case of Prolonged Use of a Barbiturate. *American Medicine*, 40:235-238. (July) 1934.

PEPSIN IN THE PREVENTION OF ABDOMINAL ADHESIONS

These writers have experimented with various preparations in the prevention of adhesions. They find thiosinamine ineffective; a proprietary preparation of bovine amniotic fluid gave favorable results. Pepsin extracted with hydrochloric acid was not promising as a preventive but in glycerin and water extract, it was effective in prevention or reduction of the reformation of adhesions in 62 per cent of cases. They found that it was most effective as a prophylactic in primary operations, and in these cases 86.4 per cent it was successful.

Yardumian, K. and Cooper, D. H., Pepsin in the Prevention of Abdominal Adhesions. *Archives of Surgery*. 29:264-276. (August) 1934.

BILE PERITONITIS

The author bases his studies on eight cases with perforated gallbladder. His conclusions are that diffuse bile peritonitis has rarely, if ever, been found the cause of death in man. The extravasated sterile bile is rapidly encysted and thereby becomes relatively innoculate. If the bile is not encysted it provokes a response which soon invites surgical intervention. Death may occur from infected bile but it is then due to the pyogenic rather than the chemical peritonitis.

Mentzer, S. H., Bile Peritonitis. *Archives of Surgery* 29:227-241 (August) 1934.

RHEUMATIC DISEASES OF THE SPINE

Dr. Miller presents in a very clear style the two types of rheumatic diseases of the spine, namely the rheumatoid arthritis, which is infective in origin and the osteo-arthritis, a degenerative disease. Both of these occur in the extremities but may also affect the spine. The presentation particularly stresses the etiology, the signs and symptoms and diagnosis. In both cases he says that the prognosis is poor and that the best treatment he knows is unsatisfactory except in the acute cases where the patient may be made more comfortable by rest in bed and analgesics.

Miller, J. L., Chronic Rheumatic Diseases of the Spine. *The Archives of Internal Medicine*. 54:161-169. (August) 1934.

RECURRENCES IN PNEUMOCOCCUS PNEUMONIA

These writers from the Thorndike Memorial Laboratory in Boston, report a study of 57 cases having recurrent attacks of pneumonia, associated in each instance with serologically identified pneumococci. Their analysis failed to indicate any marked change in the local or type-specific susceptibility and that the distribution of the types of pneumococci and the sites of the pulmonary lesion were very similar to that observed in pneumococcus pneumonia. A large number of the cases had more extensive and "atypical" lesions during the recurrent attack. They found that early recurrences are more frequent among the serum-treated cases.

Finland, M., and Winkler, A. W., Recurrences in *Pneumococcus Pneumonia*. *American Journal of Medical Sciences* 188:309-321. (September) 1934.

THE PROGNOSTIC VALUE OF SPINAL FLUID IN SYPHILIS

This work from the Peter Bent Brigham Hospital in Boston is a survey of nineteen cases who were followed from five to nineteen years. The outcome in all of these cases was favorable, although in the group there were two cases with positive spinal fluid in the first year of the disease with no abnormalities five years later. In four additional cases the spinal fluid was strongly positive after the early stage of the disease and examination from ten to thirteen years later showed no evidence of abnormalities. In conclusion then, the outcome of the entire group was the same regardless of the early spinal fluid findings. The author does not disregard the fact, however, that central

nervous system changes might still take place in the future.

Schritker, M. A., The Value of Early Lumbar Puncture in the Prognosis of Central Nervous System Syphilis. *American Journal of Syphilis*, 18:360-372. (July) 1934.

THE DIABETIC CHILD

Dr. John of the Cleveland Clinic surveys the various etiological factors in the causation of diabetes in children. The most important he thinks is hereditary, in which there was a 30.8 per cent incident in the cases reported in the literature and 18.7 per cent of his own 214 cases. This hereditary influence is much higher in Jewish children than in Gentile children. Obesity is not a major etiological problem, arteriosclerosis is not a causative factor and hyperthyroidism plays an insignificant role. He believes syphilis can be disregarded as causative factor.

John, H. J., The Diabetic Child, Etiologic Factors. *Annals of Internal Medicine*, 8:198-213. (August) 1934.

INDICATIONS OF PHYSICAL THERAPY

The author, a practicing physician, summarizes the effect of heat, exercise, massage and the ultra-violet ray. He is impressed by the fact that many of these forms of physical therapy are used chiefly upon an empirical basis. The most good that comes from any form of physical therapy, in his opinion, is that it serves as a defense mechanism of the tissue in response to external stimuli and consequently the most valuable are those which stimulate the increased flow of blood through a part treated.

Sprunt, T. P., Certain Bases of Physical Therapy. *The Annals of Internal Medicine*. 8:192-197. (August) 1934.

VIOSTEROL FOR RICKETS IN PREMATURE INFANTS

These two authors writing from the department of diseases of children, in the College of Physicians and Surgeons in Columbia report that even in the presence of severe clinical and roentgenological rickets there is no variation in the serum calcium or inorganic phosphorous from birth to five months of age. They show that Viosterol 250 D in a maximal dosage of 20 drops a day was inadequate for the complete protection of the premature infant.

Davidson, L. T., and Merritt, K. K., Viosterol in the Prophylaxis of Rickets in Premature Infants. *The American Journal of Diseases of Children*. 48:281-308. (August) 1934.



William Volker Clinic

The Diagnostic Department of Research Hospital was established in November, 1924. In a reorganization in 1933 the medical staff assumed financial and operating control and changed the name of the organization to the William Volker Clinic. Patients are received for diagnosis or diagnosis and treatment. On completion of examination of patients referred for diagnosis, reports which includes the patient's history, physical examination, laboratory and x-ray reports, the findings of various specialists and the final diagnosis with recommendations for treatment, are sent to the patient's physician—in no instance will reports be given to patients. The fee includes all necessary tests and examination.

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NEW BOOKS

BOOKS RECEIVED

Physiology in Health and Disease, by Carl J. Wiggers, M.D., professor in physiology, School of Medicine, Western Reserve University. A book of 1184 pages and 182 illustrations with a statement by the publisher that it has been written for medical practitioners, as well as students, and that its objective is a complete understanding of functional disturbances of patients leading to diagnosis in the physiological manner without sacrificing biophysical, biochemical, and mathematical elements of physiology. That to this end the author stresses application of pure science and physiology, inculcates the general principles of physiology, outlines and surveys the functions of the various tissues, organs and systems, and correlates physiological alterations produced experimentally with aberrant manifestations illustrated in patients. Published by Lea and Febiger, Philadelphia, at \$9.00 per copy.

Applied Anatomy by Gwilym M. Davis, M.D., late profesor, orthopedic surgery, and associate professor, applied anatomy, University of Pennsylvania. A ninth edition, reset, reillustrated, and completely revised by George P. Mueller, M.D., professor, clinical surgery, University of Pennsylvania, assisted by Bernard J. Alpers, M.D., Stirling W. Moorhead, M.D., Robert A. Kimbrough, Jr., M.D., I. S. Ravin, M.D., and S. Dana Weeder, M.D., also of University of Pennsylvania. The preface states that the work intends to teach surgical principles through the medium of anatomical relations, and as the book is not an operative surgery, descriptions are sketched and anatomical relations are conjoined. That the original text through years of insertions had become uneven for reading, and also needed general revision and addition. Consists of 717 pages with 674 illustrations, and is published by J. B. Lippincott, Philadelphia.

Cataract, Its Etiology and Treatment, by Clyde A. Clapp, M.D., associate professor, ophthalmology, Johns Hopkins University, and professor, ophthalmology, University of Maryland. The review quoted below from W. H. Wilmer, M.D., Johns Hopkins University, is furnished by the publisher: "The remedies suggested for the prevention or cure of

cataract are many; and the different forms of instruments and operative procedures recommended are bewildering in their variety and complexity. Therefore, there is a distinct need for a clear, concise, yet comprehensive monograph upon all of the different aspects of the crystalline lens in health and in disease. This book contains 25 chapters which cover very succintly a wide range of valuable facts, from the development of the human crystalline lens to the treatment of its affections. Dr. Clapp has succeeded admirably in the very difficult task of placing between these covers a vast amount of interesting and useful information. It should be welcomed by students and by practitioners of ophthalmology." Consists of 300 pages with 92 illustrations, and is published by Lea and Febiger, Philadelphia, at \$4.00 per copy.

Synopsis of Genitourinary Diseases, by Austin I. Dobson, M.D., professor, genitourinary surgery, Medical College of Virginia. The author designates this as a synopsis assembling all essential facts of urology for medical students, and as a handy reference for practitioners of medicine. That chapter 1 is a summary of the prominent signs and symptoms of urogenital disease. Chapter 2 covers the instruments needed and used in general practice. Chapter 3 gives a brief description of the anatomy of genitourinary organs. Chapter 4 treats of anomalies, and remaining chapters are arranged largely according to the etiology of the disease. Consists of 275 pages with 111 illustrations, and is published by C. V. Mosby Company, St. Louis, at \$3.00 per copy.

The Laboratory Notebook Method in Teaching Physical Diagnosis and Clinical History Reading, by Logan Clendenning, M.D., professor, clinical medicine, University of Kansas. Explanatory remarks by the author show this to be an attempt to carry over into clinical teaching a plan long used successfully in the fundamental sciences. An outline notebook, of which this work is an illustration, is therefore suggested for history taking and physical examinations. Published by C. V. Mosby, St. Louis, at 50 cents per copy.

Nature's Way, by Victor C. Pedersen, M.D., a treatise on the fertile and sterile periods of marriage, consisting of 81 pages, published by G. P. Putnam and Sons, New York, at \$1.00 per copy.

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NEWS NOTES

EXECUTIVE SECRETARY COMMITTEE REPORT

The September number of the state JOURNAL contained a report of the activities of the executive secretary committee up to that date. Considerable progress has been made since that time which we believe of sufficient interest to call for a second report.

Our executive secretary, Clarence Munns, is now established in new office space in the Stormont Building in Topeka, thus setting up a central office for our state society in the legislative center of the state. Most of the records of the state Society will naturally be centralized in this office and various of the state Society records are being transferred to this office. Mr. Munns will have the help of two secretaries in this office.

The JOURNAL arrangement provides for management of the JOURNAL by an editorial board consisting of Dr. W. M. Mills, editor and chairman; Dr. L. R. Pyle, Dr. R. B. Stewart and Dr. F. C. Taggart. This board is to be assisted by a group of associate editors chosen more or less geographically throughout the state. The names of the associate editors are published in this number of the JOURNAL.

Like other Society activities, the JOURNAL will flourish and progress exactly in proportion to the amount of interest and help given by every member of our state Society.

The executive secretary and his office force are now in position to give able help in all committee work of our state Society. The executive secretary committee urges every committee member and every committee chairman to call on Mr. Munns for his presence and technical assistance in all committee meetings and all committee work.

To those especially interested in the finances of the Society, the executive secretary committee would like to state that these new arrangements are being carried on at a very reasonable expense to the Society and well within the limit of the Society income.

HENRY N. TIHEN, M.D., Chairman
Executive Secretary Committee.

CORRESPONDENCE

The following letter has been received from Dr. F. L. Rector, author of the Cancer Survey of Kansas, in reply to Dr. Arthur Hertzler's comment concerning same mentioned in the October issue:

"On page 391, October, 1934, issue of the JOURNAL of the Kansas Medical Society, is a communication from Dr. Arthur Hertzler, Halstead, Kansas, objecting to the statement in our report on the cancer survey of Kansas that there was no deep therapy equipment in the Halstead clinic.

"This report comprised the information obtained from an extensive field survey of hospital facilities that was made in July and August, 1933. The Halstead clinic was visited on August 1, 1933, when the information as printed was furnished by Dr. Hertzler himself. The report was submitted to the Kansas Medical Society in February, 1934, and considered at the Wichita meeting in May and ordered printed.

"Following the appearance of the report in your

JOURNAL, Dr. Hertzler wrote me saying that 'your inspection must have been made a long time ago.' Shortly after receipt of his letter another letter was received from the sales department of the General Electric x-Ray Corporation in Chicago, saying that their attention had been called by Dr. Hertzler to the statement in my report and that

'We are very happy to inform you that under date of July 9, 1934, we shipped a complete KX-3 transformer and shock proof deep therapy unit to this institution and completed the installation a couple of weeks later.'

"It is only necessary to call attention to the fact that the deep therapy equipment was installed in the Halstead clinic one year after the institution was visited to remove any doubt as to the accuracy of our report. Delay in making the report public was in no way the fault of our Society as its publication rested entirely with the Kansas Medical Society.

"It would be appreciated if you would make available to your readers the facts in this situation as here presented."

The October and November issues of the JOURNAL, therefore apparently cover both sides of the question, and should close the incident.

TWENTY-FIVE YEARS AGO

Excerpts from Journal, November, 1909

"October 13 and 14 examinations were held for certificates to practice medicine. There were twenty-three candidates, sixteen of whom passed."

"The Kansas epidemic of anterior poliomyelitis has subsided; there have been about sixty-five cases reported to the State Board of Health."

The editor's note on "Medical Men as Makers of History" cites Dr. Frederick A. Cook's recent discovery of the North Pole as another achievement adding new laurels to the profession. Medical men have always been prominent in fields other than their own. Josiah G. Holland is the editor of Scribner's Magazine. S. Weir Mitchell's delightful book, "Hugh Wynn," is seldom thought of as a product of a famous neurologist. The professor of anatomy at Harvard, Oliver Wendall Holmes, has made himself more famous with his essays than his excellent medical work.

"The officers of the state Society at this time are: President, Dr. O. J. Furst; first vice president, Dr. F. F. Foncannon; second vice president, Dr. J. D. Walthall; third vice president, Dr. J. P. Kaster; secretary, Dr. Chas. S. Huffman; treasurer, Dr. L. H. Munn; librarian, Dr. S. G. Stewart; editor of the state JOURNAL, Dr. James W. May."

"REGISTER YOUR BABY" CAMPAIGN

A campaign sponsored by the Kansas State Board of Health, Federal Bureau of the Census, and Kansas Emergency Relief Committee is to be commenced in the near future whereby cards will be mailed to every family in Kansas requesting that they complete enclosed birth information for return to the vital statistics department of the state board of health. Purposes intended are to increase registration for the past year, to insure correctness of present records, and to emphasize legal, social and economic importance of birth registration.

JAMES Y. SIMPSON, M.D.
Neurologist and Addictologist

HERMON S. MAJOR, M.D.
Neuro-Psychiatrist

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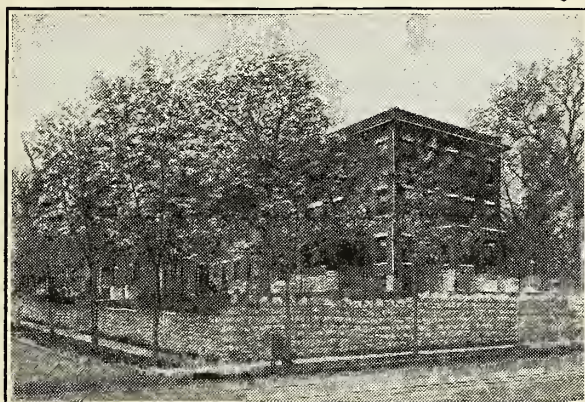
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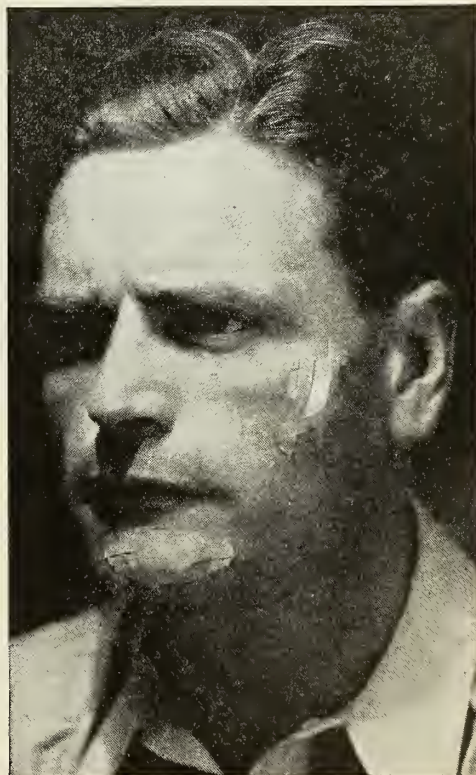
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NEW OFFICE

The new office of the Society was opened on October 18, and consists of 300 square feet of floor space on the second floor of the Stormont Building, a modern fire-proof building, centrally located. Arrangements were made for an inner and outer office, and a reasonable amount of furniture was purchased to supplement that utilized in the former JOURNAL office. A vault is available, and ample filing space is present for all correspondence, records, and files of the Society. An addressograph and multigraph, previously owned, also contribute to the equipment. Service in connection with the latter is offered to all county societies, officers, or committees who find multigraphed lists and bulletins a problem. Personnel is composed of Clarence Munns, Miss Ruth Carlson and Miss Isabel Wright. Mailing address is Kansas Medical Society, Stormont Building, Topeka.

MORBIDITY REPORT

The following report of the state department of health shows the number of communicable disease cases reported in the state during the month ending October 20:

177 cases of scarlet fever, 59 cases of diphtheria, 24 cases of typhoid fever, 9 cases of poliomyelitis, 7 cases of encephalitis, 2 cases of smallpox, 67 cases of whooping cough, 85 cases of measles, 1 case of meningitis, 58 cases of tuberculosis, 67 cases of gonorrhea, 98 cases of syphilis, 20 cases of German measles, 169 cases of chickenpox, 64 cases of mumps, 71 cases of pneumonia, 1 case of rabies, 2 cases of tularemia, and 1 case of amebic dysentery.

TUBERCULOSIS NOTES

Tuberculin Testing in Schools

Dr. Ralph I. Canuteson, director of Health Service of Kansas University, gave the tuberculin skin test to 1330 freshmen students in September, 1934. The positive reactions were very close to one-third of the total number tested. The Health Service took 450 x-ray films which are now in the process of careful study. Dr. Canuteson reports that studies thus far made indicate that eight per cent of all positive reactors will need further examination.

Dr. C. F. Taylor, superintendent of Norton Sanatorium, made some records of great value as to the reaction of school children to the tuberculin skin test, by work done in the schools of Norton, Kansas, early in 1934, using the Mantoux test on 266 children of grade school age. He found that 74 per cent were negative, 19 per cent definitely positive and seven per cent fair reactions that could not be positively interpreted. At the same time, he tested 154 high school students, showing 64 per cent negative, 18 per cent positive and 18 per cent with indefinite reactions. Those tested included a total of 420 children. One active case of tuberculosis was discovered.

DEATH NOTICES

Dr. James S. Hibbard died at his home in Wichita on October 17. He was 61 years of age, had lived in Kansas for 15 years, and was a graduate of Kansas City Medical College in 1900.

Dr. James Napoleon Ketchersid died at his home in Hope on September 30. He was 84 years of age, had lived in Kansas since 1878, and was a graduate of New York Medical College in 1873. Dr. Ketchersid was an organizer and charter member of the Dickinson County Medical Society and the Golden Belt Medical Society.

Dr. Henry Shelby McKenzie died at Kansas City on September 24. He was 50 years of age, had lived in Kansas since 1911, and was a graduate of Southwest School of Medicine in 1909, and Eclectic Medical University in 1911.

Dr. Emily E. Spencer died at Holton on September 8. He was 88 years of age, and was a graduate from Hahnemann Medical College in 1885.

MEMBERS

Dr. C. V. Black, Sedgwick county physician for the past two years, located in Pratt on October 16, and will assist Dr. W. F. Bernstorff.

Drs. O. E. Stevenson, Oswego; W. H. Rea, Arkansas City, and J. R. Pritchard, Fort Scott, attended a meeting of physicians and surgeons of the St. Louis & San Francisco Railway in St. Louis, Missouri, on October 8.

Dr. James E. Wallen, Ottawa, was the principal speaker at a meeting of the Ottawa Parent-Teacher Association, and discussed a prospective milk ordinance of that city.

Dr. Willard Holt, formerly of Wichita, has removed to Dodge City where he will practice with Dr. C. H. Briggs.

Drs. Karl A. Menninger, Topeka, and Leo Stone, Topeka, attended the meeting of the Central Neuro-Psychiatric Association, Cincinnati, Ohio, on October 11-13.

Dr. Clifford Van Pelt, Paola, has been appointed county health officer of Miami county.

Dr. Leo O. Smith, graduate of Creighton University School of Medicine, Omaha, Nebraska, has opened an office in Topeka.

The following are reported to have attended the annual meeting of the American College of Surgeons, Boston, Massachusetts, on October 15-19: Drs. Howard L. Snyder and Howard E. Snyder, Winfield; John A. Dillon, Larned; R. G. Klein and C. E. McCarty, Dodge City; H. M. Glover, Newton; J. G. Hughbanks, Independence; and Frank C. Boggs, Topeka.

Dr. Ralph M. Fellows, Topeka, attended the Oklahoma City Clinical Society Fall Conference, Oklahoma City, Oklahoma, on October 29-November 1.

Dr. L. E. Maker, who has practiced in Hoxie, will in the future be located at Hudson, Colorado.

Dr. Robert P. Knight, Topeka, was elected to membership in the Shawnee County Medical Society on October 1.

A conference and dinner was held at the Menninger Sanitarium on October 23 with an attendance of approximately fifty guests from Kansas, Nebraska, Missouri and Oklahoma. Drs. Wm. M. Ketcham, Kansas City, Missouri, and Leo Stone, Topeka, appeared on the program.

Dr. Seth L. Cox who did tuberculosis work with the State Tuberculosis Association for many years, and subsequently assisted the Norton Sanatorium and the Henrietta Brown Tuberculosis Research, is now medical director of the Washington Tuberculosis Association, Seattle, Washington.

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The state department of health has recently added a Division of Tuberculosis to its organization, and Dr. Clifton Hall, formerly with the Norton Sanatorium and Henrietta Brown Tuberculosis Research, has been named as director. Inquiries may be addressed to him at the State Capitol building.

Dr. Porter Brown, Salina, has an article, "Dial—Urethan for Obstetrical Analgesia," in the October issue of *Surgery, Gynecology and Obstetrics*.

Drs. George Stafford, D. A. Anderson and Wm. Armstrong were admitted to membership in the Saline County Medical Society on September 21.

COUNTY SOCIETIES

Dr. Walter L. Bierring, president of the American Medical Association, will be the guest speaker at the annual meeting of the Shawnee County Medical Society on December 3. The meeting will be held at Hotel Jayhawk, Topeka, and will be preceded by a dinner for the members and their wives. All members of the Kansas Medical Society are invited to attend.

The Sedgwick County Medical Society held the following recent meetings at the Allis Hotel, Wichita: On October 5, Dr. H. W. Woodruff, Joliet, Illinois, spoke on "Eye Injuries and the General Practitioner"; on October 9, Dr. Henry P. Vaughn, public health officer, Detroit, Michigan, lectured on "The Family Physician and Preventive Medicine", and also Dr. Hugh Dwyer, Kansas City, Missouri, discussed "Medical Economics and Immunization"; and on October 16, Dr. Wilfred Cox, Wichita, gave a paper on "Dermoid Cysts of the Ovary."

The one hundred and eightieth quarterly meeting of the Golden Belt Medical Society was held at the Clayton Hotel, Salina, on October 11 with an attendance of approximately fifty members. Two clinical presentations were made in connection with papers by Dr. J. W. Neptune, Dr. Harold Neptune and Dr. E. M. Sutton. Other papers were offered by Dr. E. G. Padfield and Dr. Porter Brown. Following the scientific meeting a dinner and business meeting was held. Selection of Abilene as the next meeting place was approved.

Two recent dinner meetings of the Ford County Medical Society at the Lora Locke Hotel, Dodge City, are reported. On September 14, Dr. Vern Pauley, Wichita, and Dr. J. S. Norman, Pueblo, Colorado, were guest speakers; and on October 12, Dr. Hal Marshall, Wichita, and Dr. Howard Clark, Wichita, appeared on the program. Members and guests totaling forty and thirty-eight respectively attended, and both meetings were in connection with the regular monthly orthopedic clinic of this society.

The Butler-Greenwood County Medical Society met in Eureka on October 12 at the Eureka Country Club. The program consisted of golf in the afternoon, dinner, and a scientific session in the evening. Papers and clinics were presented by Dr. C. T. Hinshaw, Wichita, and Drs. Manahan, Wm. R. Jones, R. W. Moore, Bertram Johnson and C. D. Baird, all of Eureka. Guests from Iola, Augusta, Douglas, Rosalia, Leon, Wichita, Emporia and El Dorado were present.

Twenty-one members and guests attended a dinner meeting of the Johnson County Medical Society, Hotel Olathe, Olathe, on September 17. Dr. Ralph H. Major, University of Kansas, presented discussion and motion pictures of his recent year spent in Europe. Bell Memorial Hospital was selected as the next meeting place.

Dr. Frank Dickson, Kansas City, Missouri, at the invitation of Mitchell County Medical Society, the Rotary Club and the Probate Judge, assisted in a crippled children's clinic held at Community Hospital, Beloit, on October 9. Thirty-three children were examined. In the evening a public meeting was held at the high school auditorium, and Dr. Dickson, Mr. J. L. Chandler, Wichita, and Mr. Earle Evans, Wichita, discussed the Kansas Crippled Children Law.

The first fall meeting of the Wilson County Medical Society was held at the Brown Hotel, Neodesha, on October 16. A dinner preceded a round table discussion of the Southwest Clinical Society meeting, Kansas City, Missouri, and business meeting. The woman's auxiliary met at the same time, and each member of the auxiliary received a box of chocolates from Mr. Walter J. Bangs, Abbot Drug Company salesman. Next meeting of the society will be held at Fredonia in November.

The Leavenworth County Medical Society met at Cushing Memorial Hospital, Leavenworth, on October 8, with 30 members and guests present. Dr. Thomas G. Orr, University of Kansas, was the guest speaker. The November meeting is to be at St. John's Hospital, Leavenworth.

Dr. E. H. Skinner lectured on "Preventable and Curable Conditions in the Field of Malignancy", at a joint dinner meeting of the Clay County Medical Society and the Washington County Medical Society at Hotel Tankersley, Clay Center, October 10. A business meeting followed. Several guests were present from Hanover and Wamego.

The Wyandotte County Medical Society held its first fall meeting at the Wyandotte County Court House on September 4 with a program consisting of Drs. H. R. Wahl and R. W. Kerr, University of Kansas, and Dr. C. F. Taylor, Norton. A golf tournament during the month of September was announced.

Dr. C. A. Lilly, University of Michigan, discussed research of his department upon the subject of vitamins at a special meeting of the Atchison County Medical Society at Atchison on October 15.

Washington County Medical Society reports an informal meeting and dinner at the Washington Hotel, Washington, on September 25.

The Edwards County Medical Society and the Ford County Medical Society plan a joint meeting in Kinsley during November, with Dr. Paul A. O'Leary, Rochester, Minnesota, as guest speaker.

A program consisting of lecture and lantern slides on "The Problem of Diabetes," by Dr. Walter H. Nadler, Northwestern University School of Medicine, was presented to the Shawnee County Medical Society at the Jayhawk Hotel, Topeka, on October 1.

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TREATMENT OF PNEUMONIA

OSCAR W. BETHEA, M.D.*

New Orleans, Louisiana

We have made progress in the treatment of almost every disease known to science except pneumonia. Here, we have lost ground. In 1897, Osler reported the general death rate of lobar pneumonia to be between 20 and 30 per cent. In 1909 he estimated the mortality to be between 20 and 40 per cent and quoted Wells Statistics based on the collected reports of almost a half million cases showing 20.4 per cent mortality. Cecil, in 1930, reported the Bellevue mortality as varying between 30 and almost 50 per cent. I published in 1930 the following death rate data secured from a group of large general hospitals:

Year	Lobar pneumonia	Broncho-pneumonia
1929	40.4	47.8
1915	32.3	44.6
1910	38.5	52.6
1905	43.3	33.9
1890	38.8	36.3

Why this failure? Patients send for physicians more promptly than they did in former generations; our equipment for making diagnoses has improved; facilities for treatment, both in the home and in the hospital, are incomparably better; we know more about diet; we are better versed in physiology and pathology; therefore, we naturally have every reason to expect that we should save a larger percentage of pneumonia patients than did our fathers and grandfathers.

One reason for failure may be the circulatory damage resulting from various pandemics of influenza. Is it not possible, however, that there may be something wrong with our treatment? That we may be doing something unfavorable that our fathers did not do, or omitting something of advantage that they did?

The most careful search in medical literature fails to reveal any remedial measure of even possible value, not being used today. It seems rather that we are doing something that should be omitted, or even overtreating these patients as a whole. Until comparatively recent years, a constant effort was made to apply specific therapy to typhoid fever. When this was discontinued and instead of treating the disease we began to care for the patient, there was immediately an improvement as indicated by statistics. The same applies to tuberculosis and to many other conditions. Some of us may live to see most of our pneumonia patients managed in the same way. At present there are many drugs, biologicals and other remedial agents that have their quota of advocates. There is a consideration here that should not be overlooked. These enthusiastic investigators in their honest promotion of what they believe to be specific medication are doing the majority of the writing today on this subject and the impression may be gathered easily that the profession as a whole is employing such therapy. I question the verity of such a conclusion. Most prominent among the specific agents advocated are the various sera, and they seem to offer most in the way of promise for the future.

Present opinion has been well expressed by Bigelow, when he says that the results are good in type I; not so convincing in type II; disappointing in type III; and not to be recommended in group IV. Only about one-third of lobar pneumonia is type I. The proportion is further reduced when we include the large group of bronchopneumonias and those of epidemic influenza.

Cecil has emphasized repeatedly his conviction that to be of appreciable benefit serum must be used early in the disease. We must contend here with the large number of cases where the physician is called late and with those where the diagnosis is made late.

The opportunity for the ideal use of serum is further reduced because of the number of cases where the laboratory facilities are not

*Professor of Clinical Medicine, Tulane University, New Orleans.

available for typing, and those where the particular organism is determined too late for the serum to be of much value.

Also, the cost of such treatment cannot be overlooked. Cecil in a recent paper suggested a dosage for the first day of 100,000 units for type I, 200,000 for type II. On the subsequent days the dosage is naturally reduced. On reading Cecil's article I phoned a druggist for the retail price of 200,000 units. He advised that it was \$150.00. I realize that this price might be reduced materially by purchasing in quantity or through a hospital, but still it is certainly a fact that the cost will naturally limit the availability of this plan of therapy.

Taking the country as a whole, I estimate that something like 95 per cent of the cases of pneumonia this coming year will have to be treated without the benefit of specific sera.

I am not casting reflections on the excellent work that is being done in this field of therapy, and I hope for unlimited developments in the future, but this paper is particularly intended for the great majority of cases whose interests are being somewhat neglected in recent literature.

During the great pandemic of 1918, together with most other physicians, I was confronted with a large group of pneumonias of a type entirely unfamiliar to me. Not knowing what to do in the way of direct therapy, I devoted my attention largely to the general care of the patient. My results were encouraging and gradually a plan of therapy was developed that I have employed in the treatment of most of my cases since that date. I found that in hospital work particularly, it was rather inconvenient to write out the entire detailed instructions for each case, so I had multigraphed forms made and one of these is attached to the record of each case as the general instructions. We do not use the title "Order Sheet" but "Ward Suggestions for Attention to Pneumonia Patients." There is naturally much individualization and deviations from this routine treatment are entered in writing. It is this plan of therapy that I wish to present and to discuss each paragraph in detail.

"Absolute mental and physical rest." The immediate cause of death in pneumonia is usually circulatory failure, and conserving the circulatory apparatus is the main consideration throughout treatment. All company is excluded from the sick room, and in the home visitors

are excluded from the house. Neighborhood noises are prevented as far as possible. In house cases I have often had a policeman stationed in front of the home day and night to maintain quiet. I have appealed at times to the Boy Scouts in the community. I have frequently visited the neighbors myself and pleaded for cooperation.

"Much fresh air, without direct exposure to cold drafts." A corner bedroom is selected where possible and the patient's bed so placed that he will get the maximum benefit of all possible ventilation. Screens are employed to prevent drafts. In cold weather, I consider an open fireplace a distinct advantage in house cases, as it not only helps to warm the room but promotes ventilation and enables the nurse to keep comfortable without having to reduce the ventilation for the patient. In cold weather I always make sure that the night nurse is provided with a cloak.

"An ice bag to the head if the temperature is over 102° F." I prefer the nine-inch English type of ice bag. It should be only partly filled, the air removed, and the bag cupped over the head so as to make the largest possible contact.

"Daily sponge bath." Warm baths are employed exclusively. I do not allow alcohol rubs except to the contact surfaces. If alcohol has any value when applied to the skin it is that of hardening the surface and lessening perspiration. Neither of these results are desirable here.

"Careful attention to oral hygiene." A patient is not annoyed by over-attention. There is no solution of particular value and I allow the patient to use the mouth wash to which he has been accustomed, provided that its reaction is acid. The salivary secretions being alkaline are inhibited by an alkaline agent, while an acid solution stimulates them, thus keeping the mouth moist and contributing to prolonged comfort.

"From one-half to one fluidounce of liquid petrolatum each night. Enemas, if needed, for distention." The liquid petrolatum is probably best given in the form of an emulsion. Enemas should not be irritant in character.

"Castor oil any morning when needed." This agent has the particular value of not initiating a diarrhea. It may be given in pineapple juice and, if a refined oil is employed, there is practically no taste.

"Thirty grains of sodium citrate every two hours when awake. Discontinue upon evidence of pulmonary edema." No specific value is

claimed for this drug. An effort merely being made to give a palatable and satisfactory alkalizing agent. It is also diuretic, mildly laxative and probably has some influence upon the secretions of the bronchial mucous membrane.

"One fluidrachm of aromatic spirit of ammonia every three to four hours, if stimulation is indicated." Here again no marked value is claimed. It is a rapidly acting, diffusible stimulant and is mildly alkaline.

"Digitalis in full doses if auricular fibrillation or auricular flutter develops, otherwise no digitalis unless ordered by the visiting staff." I find that I use digitalis about once in every 15 or 20 cases. The work of Niles and Wyckoff at Bellevue has tended to confirm the impression long held by Cabot and many others that the routine digitalization of pneumonia cases is inadvisable.

"Codeine in small doses if necessary to relieve pain, violent cough, or restlessness of such a degree as to interfere with the patient's well-being." This has seemed to meet the requirements in the majority of instances. I find that I use an average of about two grains per case; most patients not requiring any. It is used reluctantly, if at all, in the later stages.

"No morphine, atropine, strychnine, sparteine, aspirin or oxygen." It will be understood that any of these orders may be changed any day by the visiting staff.

Morphine: This drug has many side effects that are undesirable. Some patients have a marked idiosyncrasy against it. I have used it twice only in the last 100 cases.

Atropine: This is employed by many in the presence of excessive bronchial moisture. Properly used it may have a field of usefulness. My experience has been against it.

Strychnine: Having come into medicine as a teacher of pharmacology, I am naturally skeptical as to the value of this drug. It has some unfavorable side effects, such as increasing the perception of pain and tending to nervous instability.

Sparteine: This is recommended by many in the treatment of pneumonia. I have not been able to convince myself of its value.

Acetylsalicylic acid: With this might be included all depressants of the antipyretic group. I have sometimes felt that the extensive use of this drug may be one of the reasons for our increased mortality in pneumonia. Potts states that on first seeing a case of pneumonia, he

bases his prognosis in part upon the amount of acetylsalicylic acid that the patient has recently taken.

Oxygen: I feel almost embarrassed to even question the use of this agent in pneumonia. Certain findings have become rather definitely established. First, if used at all, oxygen must be employed continuously; second, the old open cone method is probably without value; third, to hope for benefit the oxygen tent or chamber is necessary; fourth, such use certainly requires the services of an expert in this particular field; fifth, all of this entails the use of equipment and an expense that is beyond the reach of the majority of patients. In addition, my own experience and observation has been against the routine use of oxygen, though I am still open to conviction.

Diet: Water, strained soups and broths made with rice or barley and one-half milk or one-fourth cream added; malted milk or similar preparations made with water; buttermilk; fruit juices with milk sugar; coffee or tea with cream and milk sugar. Give the coffee or tea to which the patient is accustomed. Avoid an excess of orange juice.

The plan here is a low total, high carbohydrate intake. Pneumonia is usually a short, stormy process and my belief is that there is no urgent necessity for a large diet. It is often urged that a patient will soon reach a crisis when he will need every particle of available strength. In training our athletic squads we have more trouble in training down weight than we do in putting it on. I would rather my patient reach the crisis with a fairly empty alimentary tract, than with one distended from an accumulation of food material in the process of digestion, fermentation and putrefaction. Our principal trouble is that a nurse when given a diet order like the above is inclined to stick to orange juice because it is palatable and easily available. This must be avoided. Should the case be protracted and more nutrition seem to be indicated, the diet is promptly increased.

After crisis, or after the temperature has sufficiently subsided by lysis, the patient may be put upon a soft, low protein diet, with small and frequent feedings. Here we use a modified "typhoid diet."

After care: Keep patient in bed for at least two weeks after temperature reaches a permanent normal. Avoid violent physical strain for several months. The actual period of convales-

cence is dictated by the condition of the patient, particularly from the standpoint of the circulatory apparatus.

An additional sheet is employed for each case. This is headed "Supplimentary Ward Suggestions."

As in typhoid and tuberculosis, the patient is treated and not the disease. This is not a plan of neglect, but one of intensive attention to all of the details of general care. The medical staff should see the patient at least three times in each twenty-four hours.

It is possible my success in the treatment of pneumonia has been largely due to the particular attention I give to general care in these cases. I have felt the same might apply to the splendid showing made by Cole, Cecil and others.

Particular attention must be given to conserving the circulatory apparatus. The patient must be kept free from noise, confusion, excitement, and domestic or business cares.

Special care is exercised in maintaining the function of the diaphragm. Small frequent feedings are to be employed, sufficient elimination secured without violent purgation, and abdominal distention prevented or actively combatted should it develop.

No oil or gas heaters must be allowed in the treatment quarters. In cool weather, patient must wear garments that protect from chilling. In a climate like that of New Orleans, many homes depend entirely upon oil or gas heaters that burn inside the rooms. If there is a fireplace in such a home, no matter whether it is in the dining room or the library, that room is selected for treatment quarters. In cold weather should the proper heating facilities not be available in the home, removal to a hospital is insisted upon.

Mustard poultices may be tried should there be a sense of oppression or constriction in the chest; do not repeat unless they give relief. No constriction must be put around the chest. Should strapping be used for pleuritic pain, it must be removed as early as possible. No value is claimed for these local applications except that they may promote comfort. I remember one case where a mother asked if she could put on mustard poultices at more frequent intervals as the patient slept about three hours after each application. Under such conditions I could not question the advantage of their continued use.

Have the patient lie on his back or on the

affected side. It is naturally desirable that the patient lie in bed in such a way as to give every advantage to the unaffected side when the pneumonia is unilateral.

My experience with this plan, modified to meet special indications, has been such that so far I have not felt justified in departing materially from it.

THE ABORTIVE TREATMENT OF VOLKMANN'S ISCHEMIA

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The following case is reported because of the fact that although a great deal has been written about this condition, with reference to its etiology, treatment of late cases, and suggestions offered as to its prevention and even treatment of early cases, no reports are to be found in the literature of cases which have been successfully treated after the ischemia has actually set in. The following is a report of a case of Volkmann's ischemia successfully treated. A simple method is also described for the treatment of severely comminuted fractures of both bones of the forearm, where open reduction is not feasible, and where the displacements are very great.

CASE REPORT

Mr. R. G., truck driver, aged 24. While driving a motorcycle, the patient was struck by an automobile and sustained a compound comminuted fracture of both bones of the left forearm. On admission to the service of the writer, the patient was found to be a well-developed white male, perfectly rational. The general examination of the patient did not reveal any pathological findings except for minor injuries over the surface of various parts of the body and a severe injury of the left forearm. Several of the lacerations had been sutured by the referring physician.

The left forearm was very much injured. There were multiple wounds of the skin, two of which had been sutured with dermal. The entire forearm up to and even above the elbow was one huge hematoma mass. The skin was tense and discolored, and shiny. Palpation revealed abnormal motion in all directions. There was marked tenderness over the head of the radius.

The urine revealed no pathological findings; the blood was normal except for a leukocytosis of 10,000; the temperature was normal; x-rays showed comminuted fractures of both bones of the forearm, the displacements of the fragments being most marked.

A diagnosis of comminuted fractures of both bones of the forearm was made and because of the nature of the lesion the following routine was adopted. This same procedure has now been used in three other somewhat similar cases, with satisfactory results.

A stainless steel piano wire was drilled through the lower ends of the radius and ulna; a Kirschner bow was then attached, and this in turn suspended from a lateral traction frame, so that the elbow was flexed at 90 degrees, and the arm abducted 90 degrees. Another Kirschner wire was then drilled through the upper end of the ulna, a bow attached, and from this bow weights were suspended, beginning at four pounds and gradually increasing to eight. This was found to be a simple yet efficient method of applying skeletal traction to the forearm.

The patient entered the hospital July 6, 1933, about 8:00 o'clock; the skeletal traction was all completed by mid-night. Orders were left for the administration of one-quarter grain of morphine every four hours. Upon seeing the patient the next morning, July 7, 1933, it was found that the morphine had not been enough to allow the patient comfort during the night. The swelling of the forearm now extended on to the hand and fingers. The fingers were somewhat blue and stiff; he was no longer able to move the fingers; and contractures were already present, especially the fourth and fifth fingers. He stated the fingers felt numb all the time. Attempts to stretch the fingers caused severe pain.

The weights attached to the bow were lessened. When the patient was seen two hours later, however, the condition remained the same, except that the contractures seemed worse. The skin of the fingers and part of the hand had a tense glossy appearance.

A diagnosis of early Volkmann's ischemia was made and the following operation performed. Under general anesthesia long incisions were made through the skin, subcutaneous tissues, and the deep fascia of the forearm (the so-called vaginal fascia of the late Professor Prentiss). When the deep fascia was cut, the muscle mass bulged right out of the opening. A great deal of blood escaped from these cuts. With

Mayo curved scissors the muscle bundles were separated slightly by blunt dissection. Vaseline gauze and then dry dressings were applied over the wounds.

Almost immediately after he had recovered from the anesthetic the patient claimed he felt some relief. About five hours later the patient was seen and he could now slightly move his fingers. They were still somewhat numb but the blue color had been replaced by a pinkish color. The fingers were not cold.

The progress of the patient was a very slow, gradual improvement so that by the 20th of July practically all of the swelling had cleared up. The motion of the fingers had improved greatly, although still far from normal. The stitches were removed and a non-padded cast was applied after the method of Dr. Böhler. The patient was discharged from the hospital and seen periodically in the office. Callus was very slow in appearing and it wasn't until the 20th of December that the cast was removed. At that time it was noted the patient moved his fingers fairly well, there was good flexion and extension of the wrist but there was no pronation and supination. He was, therefore, told he had a possible synostosis between the radius and ulna and advised to have an operation. However, for the time being he was placed upon physiotherapy. The patient called the office two months later and stated that his motion with reference to pronation and supination was increasing and he was, therefore, not going to return for further operative work.

DISCUSSION

There are many theories as to the etiology of the condition. Brooks has demonstrated that in experimental animals obstruction of a vein with the artery free, typical symptoms of ischemia can be produced with hemorrhage, edema, degeneration, inflammation, fibrosis. Contracture and loss of muscle power is the ultimate result. Clinical observation supports this experimental work very closely.

As Key and Conwell point out, over 90 per cent of the cases occur in the flexor muscles of the forearm. It is well known that the veins from these muscles are liable to obstruction at the elbow from swelling, acute flexion, or tight splints, casts, or bandages. Although in the majority of cases it must be assumed that the condition may be due to the dressing applied by the surgeon, it may appear without any such dressing at all, as was the case in the above

patient. When any dressing is applied to a forearm or elbow fracture, the patient must be seen within the next twelve hours or less.

The time to treat a Volkmann's ischemia is in its very beginning. Once there has been a degeneration, fibrosis, and contracture of the muscles, there is no power that can restore that muscle to normal. From then on we speak of improvement but never of cure. Therefore, the treatment of this condition begins as soon as it is recognized.

Prevention is, of course, more important than treatment. If a patient is treated for a fracture of the elbow, or forearm, explicit instructions must be left with the nurse in charge and the patient should most certainly be seen within 12 hours after the dressing has been applied. If impending signs and symptoms of a Volkmann's ischemia are found, any dressing which has been applied should be removed. If the flexion has been so acute that the circulation has been obstructed, the flexion should be decreased. At times the displacements of the fragments may be the cause of obstruction to the circulation. In such cases the surgeon should try to improve the position of the fragments and, if that is not possible, to do an open reduction as has been pointed out by Meyerding. Usually we advise a delay of several days before this is attempted. This may seem radical to some but it is realized that early operation as a preventive measure is the only possible factor we have to secure normal function. All the later surgical procedures are directed toward improving the condition. If traction has been made this should be lessened or removed entirely. Therefore, from the standpoint of preventive measures, the physician must always be on guard so that malposition of the fragments, pressure from hematoma, obstruction from flexion at the elbow, splints, traction, or bandages should not obstruct the circulation in such a way as to produce the ischemia. Even when all this is attended to there are certain cases where the ischemia will develop in spite of all, as is evidenced by the case above reported. Therefore, in these series of cases the following routine should be adopted.

The tension of the swollen muscles should be decompressed. Jepson has done much experimental work on dogs, and showed the relief which can be afforded the subfascial tension in cases of artificially produced ischemia. Opening the wound and evacuating the blood and serum, even hours after the onset, prevented the forma-

tion of the contracture. The work of Brooks, of Jepson, and the clinical observations of innumerable investigators support the view that the hematoma found within the limits of the antecubital fossa, or of the fascial compartments of the forearm, is capable of producing a venous block quite apart from any other mechanical disturbance due to bony displacement, position, or bandage.

Sterling Russell has made the suggestion of making long slits in the deep fascia, by inserting a long slender blade subcutaneously, inserted through tiny punctures in the skin. He states that longitudinal incisions through the skin cannot be drawn together, and if left open will admit infection. The writer does not agree with this, as it is much better to actually see what is there. Also there was no trouble in bringing the wound together in the case reported after some of the swelling had gone down. No infection followed. Of course, the rigid aseptic precautions must be taken. After thorough preparation of the field with ether, iodine and alcohol, longitudinal incisions are made through the skin and subcutaneous tissues to the deep or vaginal fascia. This is then opened; in fact, by blunt dissection the muscle groups are separated. In making the incisions through the deep or vaginal fascia, it must be remembered that the forearm consists of a series of fascial compartments. Opening one compartment when another is involved is not a solution to the problem. If the hematoma is in the joint or if the hematoma is in the antecubital fascia or if the hematoma is in one of the fascial compartments of the forearm, these are the particular regions which must be opened and relief given to the subfascial tension. Therefore, it is highly imperative that one know the anatomical structure of the fascial compartments of the forearm. The late Professor Prentiss has done remarkable work in presenting before the profession this particular field of anatomy.

It is very important that the medical profession realize these developments in the treatment of Volkmann's ischemia because these conditions are not as rare as is thought. Meyerding reports that from 1910 to 1927 one hundred twenty-eight cases of Volkmann's ischemia entered the Mayo Clinic. In a very small private practice two cases of Volkmann's ischemia were seen in the last year. Naturally, usually the orthopedic surgeon will only receive cases long after their onset and, therefore, it falls on the general practitioner or surgeon to treat

these cases adequately at the onset with a minimum permanent disability in the form of muscular disturbances. This condition was first reported by Volkmann in 1869 and from that time to the present, the incidence of Volkmann's ischemia seems to be increasing; but this no doubt must be due to the fact that it is being diagnosed more frequently because the knowledge of this condition is being disseminated throughout the profession.

SUMMARY

1. A case of Volkmann's ischemia is reported which was observed at its very beginning.

2. A method of treatment for Volkmann's ischemia is presented which, although it may seem radical, was successful in giving this individual an excellent result in as far as the ischemia was concerned.

3. A method is presented of treating severe comminuted fractures of both bones of the forearm with severe displacements by means of skeletal traction through Kirschner wires.

(Bibliography Continued on Page 474)

PRACTICAL CONSIDERATIONS OF BRONCHOSCOPY AND ESOPHAGOSCOPY

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Symptomatology of Foreign Bodies in the Air and Food Passages

Laryngeal foreign bodies: One or more of the following symptoms may be present: hoarseness, croupy cough, aphonia, pain which may be referred to the ears, hemoptysis, wheezing, dyspnea, cyanosis and a subjective sensation of a foreign body, or even death from asphyxia.

Tracheal foreign bodies: The glottic chink is much smaller than the tracheal lumen, therefore objects which pass through the larynx rarely become lodged in the trachea. If the intruder does not enter a bronchus, it is coughed up against the larynx producing a flapping impact. Subglottic edema may produce dyspnea. In other cases a tracheal thud, flutter, or an asthmatoïd wheeze may be heard.

Bronchial foreign bodies: One may divide bronchial foreign bodies into those which produce severe symptoms upon aspiration, and those in which the initial symptoms are slight.

Often because of the youth of the patient it is impossible to obtain an accurate history. The train of symptoms may point so plainly to a foreign body in the lung that the patient, especially if he is an adult, may come to the physician with his own diagnosis made. Belonging to this class is a case, which later came under my care, of a boy aged eleven who had aspirated a tenpenny nail. His physician refused to believe his story and ridiculed the family's suggestion that an x-ray be taken. The patient's pulmonary condition grew steadily worse, suppuration ensued, he became anemic, developed clubbed fingers, expectorated large quantities of foul sputum and finally, eight years after aspirating the nail, came to me for examination. The history was so definite that no other diagnosis should have been made. An x-ray film showed an abscess which involved most of the middle lobe, while the upper and lower lobes of the same side were drowned with pus. The nail was removed, but the boy ultimately died from the pulmonary infection.

The initial symptoms which follow the aspiration of a foreign body are choking, paroxysms of coughing varying in degree, gagging and wheezing, and sometimes cyanosis. A symptomless interval of weeks, months, or even years may ensue, followed by pulmonary infection, the symptoms of which may resemble pneumonia, bronchitis, bronchopneumonia, empyema, lung abscess, bronchiectasis, tuberculosis, or asthma. Vegetable foreign bodies are noted for producing intense reactions. An infant has been known to die within thirty-six hours after aspirating a peanut. In older children the symptoms are less marked.

Diagnosis: Too much has been written about the symptoms which follow the aspiration of foreign bodies, but too little has been said relative to the fact that a foreign body may enter either the air or the food passages and remain lodged there for a long period of time without causing any or at least very little, discomfort. Jackson reports a series of 1,485 cases of foreign bodies in the air and food passages. Out of this number there were 200 cases which had been overlooked for periods of from one month to thirty-six years. I do not wish you to understand that these 200 cases were without initial symptoms—quite the contrary. The most common reason for failure to diagnose the presence of an intruder in these cases was that the examining physician had failed to take into consideration the possibility of the presence of a foreign

body. Therefore the most important aid in the diagnosis of intruders in the air and food passages is to be foreign-body-minded. In most instances a carefully taken history will enable one to make a correct diagnosis, but a negative history does not rule out the presence of an intruder in either the air or food passages, for even adults may fail to remember aspirating a foreign body.

Any child who has choked, gagged, or coughed after the slightest suspicion of his having had something in his mouth, must be regarded as a foreign body case until proved otherwise by every diagnostic procedure. In adults it is usually easy to detect a foreign body in the larynx with a laryngeal mirror, but with children it is often necessary to resort to a direct laryngoscopic examination. In subglottic cases it is easy to overlook a small intruder, especially in people with strong gag reflexes. Edema of the larynx also may prevent the examining physician from detecting the foreign body. In case No. 72 of my series, C.B., during an attack of epilepsy, swallowed a denture which almost completely closed the glottic chink. His family physician inserted a tracheal trocar and sent the patient to Wichita. The patient had no knowledge of having swallowed a foreign body. The tracheal canula was so small that he was almost asphyxiated and an emergency tracheotomy was performed. As soon as the patient's condition would allow, a laryngeal examination was made with a mirror. The edema at this time was so pronounced that the intruder could not be seen. A roentgen ray picture revealed the dental plate. In all obscure cases it is advisable to make a roentgen ray examination.

Diphtheria, angioneurotic edema, edema of the larynx from other causes, and enlargement of the thymus must be excluded. Finally an infantile type larynx may produce symptoms which are extremely difficult to differentiate from ones produced by a laryngeal foreign body.

In tracheal and bronchial foreign bodies one must rely first on the history, second on the physical findings, and third on the results of x-ray examination. We have already referred to the history. In recently aspirated foreign bodies the physical examination may be negative, especially in cases of pins or other small metallic objects. The physical signs of an intruder in the bronchi are those of partial or complete bronchial obstruction. There are three

kinds of obstructions, namely: (1) by pass valve obstruction, (2) check valve—air passes in but not out, resulting in emphysema, (3) completely shut obstruction, in which air cannot pass in or out, the retained air being absorbed, resulting in atelectasis. It must be remembered that foreign bodies often move, causing a change in the physical findings.

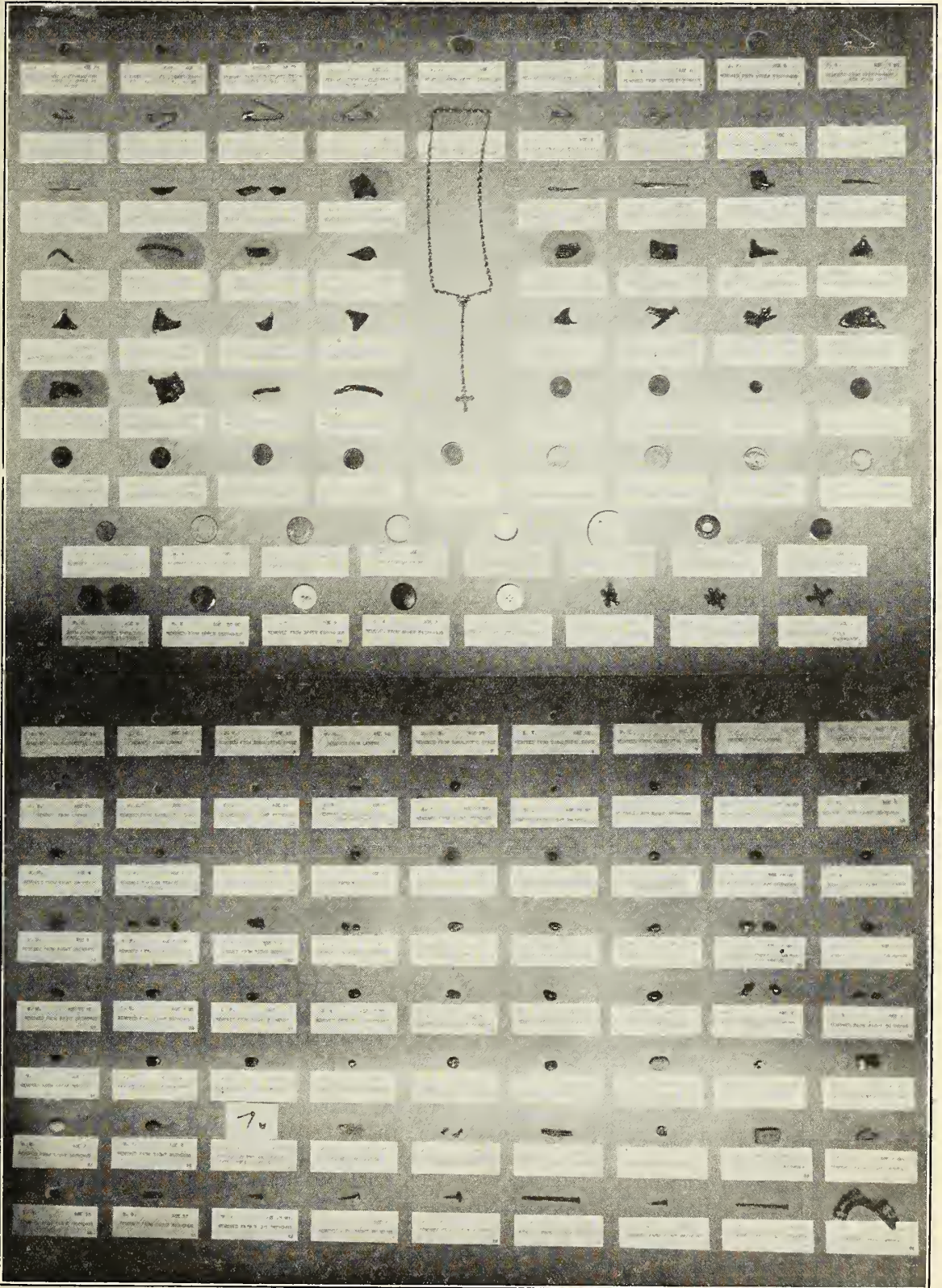
Jackson states, "The most nearly characteristic physical signs are: (1) limited expansion, (2) decreased vocal fremitus, (3) impaired percussion note, (4) diminished intensity of the breath sounds distal to the foreign body."

Roentgen ray examination: When a roentgen ray examination is made with the intention of detecting a foreign body, it should include all structures from the nasopharynx to the tuberosities of the ischia. In the hands of an expert, the x-ray will detect objects of slight density. If bronchial obstruction exists, the findings vary with the type of obstruction.

Esophageal foreign bodies: The most common symptoms which follow the swallowing of a foreign body are gagging and choking. The absence of these symptoms does not rule out the possibility that a foreign body may be lodged in the esophagus. The case history obtained from children is usually unreliable, unless an adult has witnessed the swallowing of the foreign body. In adults there is usually a foreign body sensation in the pharynx or esophagus. This sensation cannot be relied upon in locating the position of the intruder in the esophagus. Difficult and painful swallowing is also usually present. Even a small foreign body may cause regurgitation and complete inability to swallow even water. At other times the patient may have surprisingly little difficulty, even when a large intruder is present. The inability to swallow may be intermittent or constant. Cases have been reported in the literature where foreign bodies have been present in the esophagus without the patient's knowledge of their presence. In case No. 14 a roentgen ray picture of the child's chest showed a safety pin lodged in the esophagus. The patient could not remember having swallowed it. Foreign bodies in the esophagus may cause laryngeal symptoms, such as cough, dyspnea, etc. In these cases the cough either is of reflex origin or is caused by saliva trickling into the larynx due to a closure of the esophagus.

Diagnosis: The history and symptoms are frequently sufficient to establish a diagnosis.

Foreign Bodies Removed From Esophagus



Foreign Bodies Removed From Bronchi

When the intruder is sharp, pressure on both sides of the upper esophagus may cause severe pain. The most important aid in diagnosis where doubt exists is the x-ray. A lateral film should be taken first. If this fails to show the object, the patient is asked to swallow a double O gelatine capsule filled with barium, while in front of a fluoroscope. If the capsule remains at any point in the esophagus for as long as a minute, a diagnostic esophagoscopy is indicated.

Prognosis: About three per cent of the foreign bodies of the bronchi are coughed up. Jackson states that ninety-nine per cent of all foreign bodies can be removed by bronchoscopy. Foreign bodies that remain in the bronchi almost invariably result in death due to sepsis or hemorrhage. Esophageal foreign bodies may quickly cause death due to perforation and suppurative mediastinitis, from hemorrhage due to the perforation of a large vessel, or from asphyxia due to pressure on the trachea. Death may also be caused by perforation and infection of the bronchi.

Indications for diagnostic bronchoscopy: In a general way it may be stated that in any obscure respiratory condition diagnostic bronchoscopy is indicated. Ninety per cent of the bronchoscopies that are performed in the larger endoscopic clinics are for conditions other than the removal of foreign bodies. The reverse of this is true in my own experience. It has always seemed strange to me that medical practitioners insist upon having cystoscopic examinations of the bladder for diagnostic purposes, although these are more painful and at least as dangerous as bronchoscopy, whereas they consistently neglect bronchoscopy for inferential methods which are much more often incorrect. In some cases endoscopy affords the only means of making a final and conclusive diagnosis. I refer here especially to new growths both benign and malignant. Benign tumors of the air passages are not a rarity and may cause atelectases and secondary suppuration. Malignant tumors of the lung are increasing in number and from eighty-five to ninety per cent are of bronchogenic origin. A biopsy is the only definite means of making a differential diagnosis. Kernan states that out of sixty bronchogenic carcinomas diagnosed bronchoscopically, only five were seen early enough to offer a chance for cure. These sprang from the larger bronchi and were destroyed with diathermy and implants of radium.

By diagnostic bronchoscopy, rare and unsus-

pected conditions not otherwise recognizable may be found. In certain types of cases, measures to correct the existing pathologic condition may be instituted without removing the endoscope. Lung mapping is considered by Jackson as the greatest aid in the localization of pulmonary disease. Lipiodol may be instilled with the greatest accuracy into the area selected. Secretion which would otherwise interfere with the instillation may first be aspirated, with thorough inspection of the air passages at the same time.

Negative bronchoscopic observations are valuable in that they assist in making a diagnosis by exclusion. With the development of the technique of bronchoscopy the practitioner need not hesitate to advise endoscopic treatment of pulmonary diseases, such as chronic bronchial and pulmonary disease, bronchial asthma, suppurative foci of the lung, benign and malignant neoplasms.

Bronchial asthma: Patients who do not respond to other forms of treatment should be given the opportunity to obtain benefit from bronchoscopic treatments, which are more successful in the exudative form of this disease.

Lung abscess: Only 20 to 25 per cent of lung abscesses recover spontaneously. Bronchoscopic treatment is especially successful in abscesses which follow tonsillectomy and other operations—treatment must be instituted early. Bronchoscopic treatment is of value only in a small percentage of late cases.

Bronchiectasis: Bronchoscopic drainage or lavage has only palliative value in bronchiectasis.

Postoperative collapse of the lung: Postoperative collapse of the lung is really an atelectasis. This condition comes on shortly after operation and is very frequently diagnosed as ether pneumonia. The atelectasis is caused by a corking up of a bronchus with secretion. Removal of this secretion by bronchoscopic aspiration relieves the situation at once.

Hemoptysis: In patients not proved tubercular and in whom blood dyscrasias have been excluded, a bronchoscopy is indicated to determine the cause of the hemorrhage. The most common causes of bronchial bleeding are varices, syphilitic or tubercular lesions, benign or malignant growths.

Diphtheria: Laryngeal and bronchial diphtheritic membranes are frequently removed through endoscopic tubes; in fact, many lives have been saved in this manner.

Contraindications: The contraindications to diagnostic bronchoscopy are: aortic aneurysm, peripherally situated abscess, active tuberculosis, recent hemorrhage, multiple lung abscesses, empyema, extensive bronchiectases, marked cardiac weakness, moribund patient.

Indications for diagnostic esophagoscopy: The roentgen ray is a very important aid in the diagnosis of esophageal disease, but the x-ray findings cannot be absolute and should be verified in many instances by diagnostic esophagoscopy. There are many references in the literature that show revision of the x-ray diagnosis when esophagoscopy was done. Jackson expresses the belief that "when the time shall come that every patient with the slightest discomfort back of the sternum, every patient with gastric hematemesis, regurgitation, heartburn, and water brash has an esophagoscopic examination, peptic ulcers of the esophagus will be found less rare than it is now thought to be." He reports eighty-six cases of peptic ulcer, twenty-one being active, sixty-seven presenting scars due to previous ulcers.

Esophagoscopy is indicated in hematemesis, the principal etiologic factors being peptic ulcers, varices, and neoplasms. In all cases of dysphagia whether due to strictures, pouches, diverticula or congenital atresia or neoplasms, esophagoscopy is indicated for both diagnosis and treatment.

CONCLUSIONS

Be foreign-body-minded: take a careful history and you will overlook few foreign bodies in the air and food passages.

The initial symptoms which may follow the aspiration or swallowing of a foreign body, may be either slight or absent.

A symptomless interval, varying in time, may follow the initial symptoms.

After the decision that a foreign body is lodged in the air and food passages, delay in removal is dangerous. Few foreign bodies are expelled spontaneously.

Diagnostic bronchoscopy and esophagoscopy deserve a more general application.

Bernard Fantus, Chicago (Journal A.M.A.), in his discussion on the therapy of burns as it is practiced by the attending staff of the Cook County Hospital, states that it is necessary to distinguish between (1) burns of limited extent, (2) infected burns and (3) extensive burns. In all cases of deep burns a prophylactic dose (1,500 units) of tetanus antitoxin should be administered.

NEPHRITIS*

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Our hope is to restore our patient to economic productivity and to maintain him in that state as long as possible. We cannot cure many maladies but we can often improve function to the place where our patient can pursue a productive vocation and can enjoy living though oftentimes his vocation and also his living habits have to be changed.

So it is evident that our criterion of progress in the management of any case should be the functional ability not only of the impaired organs but of the man who owns them. Our discussion at this meeting is to be on nephritis. I shall not discuss any of the various types of so-called "surgical kidneys."

Recent books, current literature and present day medical teachings all indicate that many of the older conceptions of and methods used in the diagnosis, prognosis and treatment of the varied types of Bright's disease are misleading or even wrong. I do not refer to our appreciation of the gross and microscopic pathology of kidneys removed at autopsy. Not only have we all heard the often insane and untrue assurance given a patient that his kidneys are all right because one specimen of urine happens to show no gross variation from a theoretical normal, but we have ourselves probably said such things and elaborated the statement by saying, "Yes, your kidneys are working satisfactorily." We have not used any real test of kidney function, because in our training no method was accepted as good and also because those in use required elaborate laboratory equipment.

In the urological services of the Polyclinic Hospital in Vienna for the past 14 years, the fitness of a man to undergo prostatectomy has been determined by a urine concentration and dilution test alone—blood chemistry determinations as criteria of kidney function have been discontinued in those cases. In the 1934 edition of an American work on nephritis and hypertension after all other renal function tests are discussed, this same test, the concentration test, is held to be used in preference to all others. In 1905 Dr. E. W. Dwight of Boston, in a masterful review of the subject, says: "It is generally recognized that a low specific gravity

*Read before the Lyon County Medical Society, June 5, 1934.

with low percentage of solids, particularly urea and phosphoric acid in its combinations, shows very satisfactorily whether or not that kidney is doing its work." In the March 1934 number of the *Medical Clinics of North America*, Dr. Donald Van Slyke of the Rockefeller Institute in presenting an improved test of renal function says: "At present we have come to rely routinely in our clinic upon the urea clearance and gravity tests because they combine simple technic and definite interpretations through the different stages of renal disease." Primarily a good function test should employ agents and procedures familiar to the normal physiology of the organs to be studied. In the case of the kidneys, water elimination answers those qualifications as does the more complicated urea clearance test referred to by Van Slyke.

It should be remembered at this time that the conceptions of renal physiology as elaborated by the Richards School and Cushny are pretty generally accepted today and these ideas are based on demonstrations which Richards ingeniously devised. The glomeruli are filters and as the urine traverses the tubules certain substances are reabsorbed thus concentrating the filtrate. There is no actual secretion. Richards demonstrates on a living frog's kidney under the microscope, that only a part of a given glomerulus seems to be working at one time and only a fraction of all the glomeruli are active at any one time. Those working at one minute may be idle the next and a new group of them takes up the work. Thus, normally a great functional reserve exists. In cases of renal damage where the cells along the tubules are unable to concentrate the urine, one gets consistently dilute urine, and where large numbers of glomeruli are gone the functioning ones must do with less rest.

Koranyi of Budapest worked on the idea of concentration of urine as an index to renal function for years, and his concepts are today accepted largely in Europe. In America, as a result of the test elaborated by Mosenthal, the idea has assumed many forms. Briefly, it has been shown that healthy kidneys are able to concentrate urine to a specific gravity of 1025 or better, and when they cannot concentrate to 1020 there is some marked impairment. However, if the patient's kidneys can exhibit a variability of function to the degree where the difference between the dilute and concentrated urine is fifteen points in the last two figures of the specific gravity reading, that patient's

kidneys are for example in condition to allow such a procedure as a prostatectomy. (The criterion used in the Polyclinic Hospital of Vienna.) If albumen and casts be found in the urine and yet the specific gravity test is satisfactory the casts and albumen, though probably due to definite active kidney disturbance, are under the circumstances of little moment in the prognosis. In personal communication with the medical directors of thirty outstanding American life insurance companies, I find twelve of the companies have used in questionable cases or in applications for large policies one form or another of the specific gravity tests. Most all of the companies questioned emphasize the importance of an applicant's ability to concentrate urine and three of the thirty believed such tests should and would sometime become routine in applications for large policies. One director cited a case of an applicant whose only substantial disqualification was his inability to produce urine with a specific gravity greater than 1.005. He was not granted a policy, but was kept under observation and six months later died unexpectedly. (My letters of inquiry afforded, incidentally, an interesting study. Whereas the large majority of answers to my questions reflected thought and alertness, there were some that typified either indifference, lethargy or ossification of thought.) The first point I wish to emphasize therefore is that we all have at our command simple kidney function tests which can give us valuable information.

When one discusses Bright's disease or diseases, it is necessary that he first announce the classification he subscribes to. The classifications in use until recent years were not satisfactory and until Volhard and Fahr, in 1914, presented their remarkable work, a workable classification was not available. However both before then and since, clinicians everywhere seem to revel in originating classifications for nephropathies. Since Volhard and Fahr's classification has more justification due to its basic criteria, most authorities today are accepting it though at times with slight modifications, until the state of our knowledge allows us to have other than a pathological criteria which this classification has. Fishberg in his recent book says: "Since the classification of Bright's Disease by Volhard and Fahr was published, each of these men has modified his conception of some of the details expressed in their classification, but the fundamental principle of their di-

vision into primarily degenerative, inflammatory and arteriosclerotic renal diseases has proved extremely valuable and undoubtedly represents one of the most important steps ever taken in the systematization of the variegated disorders included under the term Bright's disease." He says of other classifications such as Christian's, Addis' and Aschoff's: "They have not been shown to possess any special advantages and have not been widely used."

Since we cannot hope to discuss all these types to any profitable end, I have chosen a few subjects which should afford the most food for thought. They are as follows: benign albuminurias, edema, and uremia.

The question of benign albuminurias has been a pertinent one. I should like to mention a few facts in its regard. In the last third of the nineteenth and early part of the present century, numerous writers (Mohomed, 1884; Gerhart, 1871; New, 1884; Tyson, 1888; Von Leube, 1902; Hyde quoting Osler, 1904; and others as mentioned by Dr. Edwin Welles Dwight of Boston in a review published in 1905, as well as many others since) have been of the opinion that many causes exist for benign albuminurias, especially in people under thirty or forty. In 1905 when addressing the Sixteenth Annual Meeting of the Association of Life Insurance Medical Directors Dr. Dwight said: "It is, I believe, conceded at this time by the majority of those who have given study or thought to the subject, that albumin in detectable traces is neither always present in organic disease of the kidneys, nor always absent in the urine of normal individuals. It has been clearly demonstrated that the amount of albumin normally present in the urine may be largely increased by exercise, diet, cold baths, exposure to cold, mental or nervous excitement, strain or work." In over 5,000 recruits for the Great War, five per cent were found to have benign albuminurias. Such albuminurias usually are seen less often in adults, and on the whole they tend to disappear in time though many cases are on record where the condition has been watched for ten years and longer. Though no cause is definitely known for this situation, the upright posture especially when accompanied by lordosis has been observed so frequently as a causative factor that many of these cases, where posture is influential, are called orthostatic albuminurias. There are many instances however where the postural factor is not operative. The only treatment these pa-

tients should get is good nourishing food, and exercises calculated to overcome the lordosis. They should be assured that what they have is harmless and though they should be tested periodically for evidence of impaired renal function they should be encouraged to live normal lives.

The appreciation of edema in Bright's disease dates from Hippocrates and Galen. Though it is a fact that edema is at one time or another present in the principal varieties of Bright's disease, it is not always seen and today it is known that it may be nephritic as in glomerulonephritis, nephrotic as in chronic nephrosis, and cardiac as in essential hypertension—the disease causing the primarily contracted kidney of the pathologists. Three factors in the causation of edema are accepted. They are: (1) decrease in the colloid osmotic pressure of the plasma as seen in chronic nephrosis, the nephrotic type of glomerulonephritis, the amyloid kidney and hunger edema; (2) increase in the permeability of the capillary wall so that protein molecules can pass through as seen in glomerulonephritis; and (3) increase in the hydrostatic pressure in the blood capillaries as seen in cardiac edema. The three types of edema, nephritic, nephrotic and cardiac may coexist. Each calls for a different treatment but oftentimes the different treatments can be carried out simultaneously. The classical cardiac treatment of support and rest and the classical nephritic treatment of low protein and low fluid still hold sway, though some would even treat nephritic edemas as nephrotic as I will quote shortly. My purpose in presenting this subject, is that a better understanding of degenerative nephropathies—the nephroses—has offered (as Epstein first pointed out) a newer treatment in these types. Even today however some clinicians are so enthusiastic about high protein diets that they employ them in all forms of Bright's disease as in the following summary from Alving of the Rockefeller Institute in the March 1934, *Medical Clinics of North America*. He says: "The general principle arrived at is that dietary treatment is most beneficial when it is aimed at maintenance of a good state of tissue nutrition and plasma protein content and at maintenance of a normal supply of fluid in the body. There is no evidence that low protein diets designed to rest the kidneys have any effect on the progress of the renal lesions. On the contrary; they are likely to cause unnecessary emaciation and weakness, and to favor the development

of edema from plasma protein deficit. We therefore, in all stages of the disease, endeavor to maintain as nearly a normal state of blood and tissue nutrition as the patient's tolerance of protein and total calories will permit. Salt restriction is required whenever there is a tendency for edema to accumulate. On the other hand, in the terminal stage of renal disease, when the kidneys largely lose their ability to restrict either chloride or water excretion according to internal need, it is desirable to administer salt and water in sufficient amounts to prevent desiccation. Water restriction appears to have no justification in any stage of nephritis, unless cardiac failure is present."

Though it is a bit off the subject of edema Alving says: "The only dietary measure we have observed to be of value in giving prolonged symptomatic relief in hypertension has been the use of a reduction diet in obese subjects." In Alving's high protein diet, he uses animal and vegetable protein in the ratio of 2:1. Dr. Clifford J. Barborka of the Passavant Memorial Hospital in Chicago in reviewing his concepts of high protein diets emphasizes the value of high carbohydrate and low fat in the diet. This, according to Adlersberg and Porges of Vienna, would ward off the trend toward diabetes that a high carbohydrate, high fat diet seems to encourage. In general it might be said that edema is never as serious as uremia and if the kidneys exhibit poor function in the gravity test, it is much safer and in fact obligatory to give water freely in the face of edema than to allow uremia to set in. In fact, edema (not of cardiac origin) is thought by some to be an insurance against uremia. It is assumed that due attention is given to cardiac embarrassment in all these cases. Renal function estimations should be used constantly in the regulation of treatment. In cases where protein is restricted either because the clinician is timid or because the blood shows a high protein content, anemia of a chlorotic (low color index) type often develops. Dr. Benjamin I. Ashe of the New York Postgraduate Medical School advises giving more protein and if the body shows a tendency to retain protein he gives blood transfusions, usually three in number, of 500 to 1000 cc. at five to seven day intervals. In summarizing the treatment of the nephrotic types of edema we can say that present day established usage justifies the giving of high protein, high carbohydrate, low fat diets. Salt restriction (limited to 2.5 to 5 grams a day) is presupposed for it belongs in

the classic management and we have not mentioned it.

Uremia has been defined as the symptom complex resulting from the retention of urinary constituents in the organism. No group of symptoms is to be considered as uremic in nature unless it occurs in the presence of abnormally high nonprotein nitrogen in the blood. True uremia occurs only when renal function is greatly limited, and such is demonstrated when the specific gravity never exceeds 1.010 and or when the urea clearance test as carried out by Van Slyke is five per cent or less of the normal figures. The urea clearance test, says Van Slyke, gives a closer check on the probable onset of uremia than does the concentration test. It is evident by the definition of uremia, that when enough of the functioning parts of the kidney have been destroyed or when any process inhibits the formation of urine or its transit through the urinary passages, uremia may set in. No definite metabolite has been proven to be the sole cause of uremia.

Theoretically then, the treatment of uremia could be based on: (1) diminution in the quantity of waste products to be excreted by the kidney, dietetic treatment in other words; (2) improvement of excretion by the kidney; (3) promotion of extrarenal excretion. Dietetic management is the most important aspect in preventing uremia. When protein seems to be retained in the body, the intake of protein should be greatly curtailed and the diet made largely carbohydrate with small amounts of fat. In this relation one should remember that a quart of milk represents thirty-five grams of protein. In allowing proteins, the present opinion is that one protein has no less toxic effect than another. Fruits, fruit juices, vegetables, honey, candy, potatoes, cornstarch, lactose, saccharose, olive oil, cream, etc., are usually the foods preferred as the principal ones in most clinics. In a definite uremic state all patients should be watched for cardiac failure. Venesection and the intravenous administration of strophanthin are two good though heroic treatments proven meritorious by wide usage. The great array of symptoms annoying the patient should receive symptomatic management.

Barry, Shafton and Ivy in Chicago, working on nephrectomized dogs, said water, sodium chloride and glucose alleviated the grave symptoms of uremia and they concluded from their experiments that the prolongation of life is

due primarily to maintenance of a normal balance of water, sodium and chlorides in the body. Measures calculated to improve excretions by the kidney are classic and will not be enumerated.

Though I have seen cardiac patients who had without harm had mercurial diuretics for as long as seven years, I have also seen autopsies on several patients with hemorrhagic enteritis following the use of mercurial diuretics. This brings us to the subject of promoting extra-renal excretion. Since enteritis of various sorts is not unusual in uremic patients it seems to me we should use extraordinary care in the choice of purgatives. Sweating, which has been so widely used, no doubt does good in more ways than the simple elimination, although the most simple and comfortable procedures of sweating should be employed and ample hot drinks should be allowed during the sweating.

Summarizing, one might say that a closer watch on our patients' kidney function might often enable us to ward off uremia by better dietary management and by advice in living conditions which might invite disturbances inducing renal damage. The free use of fluids and chlorides in uremic patients undoubtedly deserves attention. Whether the liberal dietary management of Alving quoted above will, by making people more fit, postpone such catastrophes as uremia, remains for time and experience to show us.

As one reviews all the aspects of Bright's disease and the almost hopeless situation presented by some, it is a great argument for preventive medicine and periodic health examinations.

Essential hypertension, which is much often the cause of hypertension than is nephritis, has not been discussed, but I have attempted to gather some facts about this as well as most of the nephropathies from reputable authorities to aid in orienting you.

It has been gratifying and most profitable to me to have had a good urge to investigate the present status of Bright's disease, and I sincerely hope I have touched on a few points which will justify the committee's judgment in giving me this subject.

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SOME OBSERVATIONS ON THE VIRUS DISEASES*

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Today we have come to recognize a group of diseases which we have conveniently classed under the term of virus diseases. This classification, though obviously inadequate seems to be justified and to represent a step forward from the former classification of "diseases of unknown etiology", in which classification many of these diseases fell.

There are now considerably more than a hundred such diseases of animals and plants for which no bacteriological agent can be held responsible. Just exactly what constitutes a virus disease is not known but several logical concepts form the criteria upon which such a classification is based. Perhaps the fundamental concept of virus diseases emanated from the work of Pasteur who first suggested such a possibility while working with rabies. However it was not until the work of Beijerinck and Ivanowski demonstrated the filterability of mosaic disease of tobacco that the classification gained an experimental basis. Shortly thereafter Loeffler and Frosch, in their classical work demonstrated the nature of foot and mouth disease and the concept was placed upon firm ground.

The term "virus" itself has no actual specific connotation. From the Latin it simply means poison. However as it is employed today, frequently and perhaps needlessly prefixed by the term filterable, it has come to designate a specific type of disease whose etiological agent is

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supposed to conform to certain definite criteria.

The criteria which must be considered before a disease is assigned to this group are as follows: (1) Filterability is the most universal property and undoubtedly the most important. However it must be born in mind that filterability per se is not exclusively a property of the virus diseases since many spirochaetes, protozoa and bacteria will pass a very fine filter either passively or by growth. On the other hand certain viruses, such as of vaccinia, for example, are passed with the greatest difficulty. (2) Viruses have been measured, most frequently by comparison with the size of certain known protein molecules which will pass filters. Their size has been estimated at approximately thirty millimicra which is of course beyond the range of our best optical instruments. (3) The formation of inclusion bodies is a phenomena which has attracted much attention in regard to this group of diseases and has led some writers to consider the Rickettsia as closely related if not the same as the virus diseases. However this property of inclusion body formation is not a constant property of this group of diseases. (4) Cytotropism is a property of many but not of all the virus diseases. This term signifies a specific tissue predilection of certain virus diseases. Most of the virus diseases seem to prefer ectodermal tissue and a few are distinctly neurotrophic, such as poliomyelitis, encephalitis, herpes and rabies. It is of interest to recall that from an embryological viewpoint, neural tissue is essentially ectodermal. (5) Cultivation of the virus diseases almost uniformly requires the presence of living tissue cells. (6) Immunity, as a rule is absolute and lasting following one attack of a virus disease. (7) The epidemiology of this group of diseases is by no means regular. Although a majority of the major types of such disease seem to gain entrance to the body through the respiratory channels, others are transmitted by insect vectors or invade via the gastro-intestinal tract.

These above criteria convey in a general way just what is meant by a virus disease and perhaps by a virus but they fail to designate their exact nature, which, in truth, would be almost impossible in the light of our present learning. D'Herelle and Twort first considered viruses as "self-producing enzymic processes", such as that demonstrated by the bacteriophage phenomena. This concept which is itself understood with some difficulty seems to be some-

what more elaborate than our former concept of viruses as more or less peculiar poisons. They are then, from our practical viewpoint, to be regarded as self-propagating poisons.

There is a definite reason why this group of diseases has occupied the scientific limelight for the past decade or two and further reasons why they should hold our attention and respect. Many of these diseases which affect the human being are the diseases with which the general practitioner is in almost daily contact. Some of these constitute the most vexing and difficult problems we are called upon to treat at the present time. Their number and frequency of incidence together with a consideration of sequellae which are not infrequently observed seem to warrant at least a superficial review of the extent of our knowledge concerning them.

Examples of the various types of virus diseases may be illustrated by the bacteriophage phenomena, mosaic disease of plants, sacbrood of bees, hoof and mouth disease of cattle and the exanthemata and neurotrophic diseases of man. Of this latter group, measles, mumps, chickenpox, epidemic encephalitis, poliomyelitis, smallpox and yellow fever are not infrequently the objects of responsibility of the general practitioner. Pappataci fever and psitticosis while of rarer occurrence, belong to the virus group.

There seems to be no correlation or uniformity in the length of the inoculation period of these diseases. The ectodermal group has an incubation period of approximately two weeks. A shorter incubation period is characteristic of the insect vector group. Viruses with an affinity for neural tissue exhibits a wide variation in their periods of incubation, most of which are not definitely known, while rabies varies regularly in relation to the region inoculated.

A majority of the virus diseases exhibit a characteristic biphasic temperature curve. This has been especially noted in poliomyelitis but is present in a greater or less degree in most of the virus conditions met with. Another point of similarity lies in the mode of onset independent of temperature manifestations, which as a rule feature moderate or severe myalgia of the legs and back. These pains are characteristic of yellow fever, dengue, smallpox, pappataci fever, and typhus. On the other hand it is well known that the initial symptoms of poliomyelitis may be, and frequently are slight, signify-

ing nothing more than a mild gastro-intestinal upset. The temperature rise is only moderate and before the onset of asthenic or paralytic symptoms this initial temperature rise not infrequently subsides entirely only to reappear with the onset of secondary symptoms. Yellow fever, dengue and pappataci fever each have a period of almost complete remission of temperature between the primary and secondary stages.

Another helpful differential factor is the white cell behavior. As a general rule most of the virus diseases show no associated elevation of the leukocyte count. Usually the leukocytes are unchanged and if alterations are encountered leukopenia is the rule. However definite leukocytosis is encountered in the neurotrophic virus diseases and after secondary invasion by pyogenic bacteria in the ectodermal types, particularly in smallpox. In the neurotrophic types neutrophilia is a characteristic.

Among the most common complications of virus diseases must be mentioned their predisposition to pyogenic infection and encephalitis, the latter arising not only as a primary infection but as a sequela to several other types of virus diseases which primarily attack other than neural tissue, as for example, vaccinia, measles and mumps.

The mortality of these diseases is likewise variable. It ranges from zero in herpes to 100 per cent in untreated rabies. Residuals as in poliomyelitis and encephalitis may be severe and when occurring represent neural trauma. Usually no damage of a permanent nature results to the heart, liver or kidneys.

Immunity is said to follow in all cases of virus infection. Those types that are characterized by ectodermal assault give lasting immunity to subsequent attacks. On the other hand, we have no assurance that the virus of rabies gives definite immunity throughout life. While it is true that antirabic immunization both in man and animals gives a well established protection *pro tempore* we are not assured of its permanency.

SUMMARY

Summarizing then, the general manifestations of the virus diseases as far as these may be placed in a common group, the cardinal clinical signs and symptoms are as follows:

1. Sudden onset with severe headache and myalgia.

2. Biphasic temperature curve.
3. Unaltered or reduced leukocytes in the initial phase.
4. Tendency to encephalitic complications.
5. Absence of sequela except in the neurotrophic group.
6. Inclusion bodies.
7. Lasting immunity.

CHOREA GRAVIDARUM*

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Chorea of pregnancy is a subject which is probably of more interest to the obstetrician than to the neuropsychiatrist; however, in that the authors have had such a case under observation recently and in that there appears to be some confusion in the literature, this case is presented in the hope it may throw some additional light upon the nature and pathogenesis of this distressing syndrome. In reviewing the literature two chief conceptions are held in regard to chorea gravidarum. The first is that it is essentially Sydenham's chorea aggravated by pregnancy. This view is held largely by internists and neurologists and is based upon the following significant facts: (1) the condition is more prevalent among young primiparae, (2) in a high percentage of cases reported a recent or remote rheumatic history, with or without chorea, is obtained, (3) in a small percentage of reported cases the disease is associated with either arthritis or endocarditis, or both, and (4) there are many cases reported in which the chorea has recurred with succeeding pregnancies.

The other view is that the syndrome belongs to the toxemias of pregnancy and this is the belief of most obstetrical authorities. To support this opinion it is stated this disease is often associated with other signs of toxemias of pregnancy, such as signs of liver and kidney dysfunction, and the occasional association with eclampsia and hyperemesis.

CASE REPORT

Mrs. M. S., a white female, 35 years of age and the mother of a normal child 5 years of age, was admitted to Topeka State Hospital, September 10, 1933. It was impossible to ob-

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tain a history from the patient as she displayed a complete loss of contact; therefore, the history as given was obtained from the husband and the physician who had her under observation for several months. Her past history disclosed no evidence of rheumatic fever and she had gone through one uneventful pregnancy and labor. She was examined and pregnancy diagnosed April 12, 1933, at which time she was apparently about three months pregnant. On May 8, 1933, she began to flow slightly and, as a threatened abortion was suspected, the usual treatment was instituted. After two weeks in bed she was allowed to be up and about again. No signs of toxemia were reported at this time. The patient felt movement about June 11, 1933, and it appeared as though the pregnancy was pursuing a normal course.

Her physician was called to see her June 28, 1933, at which time acute cholecystitis was diagnosed. It is reported that she had a mild icteric tinge to the skin and sclerae and was running low grade fever with discomfort in the right upper quadrant of the abdomen. The jaundice became more marked and the patient became severely ill with a septic fever varying from 101° to 104°, persistent vomiting and later delirium. During July there was a gradual improvement in her clinical condition with gradual recession of the jaundice; however, during this period choreiform movements of the hands and feet were noted. On August 7, 1933, persistent vomiting was reported and shortly thereafter she was admitted to a general hospital for treatment. The vomiting persisted and on August 20, 1933, she went into labor with the delivery of a dead fetus, the exact age and condition of which was not reported, but from the record the patient should have been approaching the last trimester of pregnancy. The course was rapid following the delivery; a subnormal temperature was reported with a rapid, thready pulse recorded as high as 156 the third day after delivery. The choreiform movements became gross and universal with marked delirium, loss of orientation, and hallucinosis.

The patient was admitted to Topeka State Hospital about three weeks after the delivery. Physical examination at this time revealed an emaciated, white female of about 35, seriously ill. The routine examination disclosed few abnormal findings other than a blood pressure charted at 96/70, rapid pulse at 120 with dis-

tant weak heart tones. The deep reflexes were present with no exaggeration, and no pathological reflexes were elicited. The superficial abdominal reflexes could not be obtained. Gross choreiform movements were noted which were of equal intensity on the two sides, especially observed in the hands and feet and in the muscles of the face, particularly the mouth. It was necessary to control the chorea by strong sedatives.

The mental status of the patient was typical of a toxic psychosis with complete disorientation, clouded consciousness and an apparent hallucinosis.

The laboratory findings as reported in the records are as follows: Urinalysis on a catheterized specimen, dated September 13, 1933, revealed a strong trace of albumin and a trace of indol. An occasional red blood cell with moderate number of pus cells in small clumps were reported. No casts were seen. A second urinalysis September 20, 1933, is reported as showing three plus albumin, a marked trace of urobilinogen and indol with numerous red blood cells and numerous pus cells. Hyaline and granular casts were seen. Blood Wassermann dated September 12, 1933, was negative.

A blood count, on September 21, 1933, revealed: Red blood cells 3,100,000 with a hemoglobin of sixty per cent, white blood cells 9500 with sixty per cent polymorphonuclear cells, five per cent metamyelocytes, ten per cent monocytes, ten per cent mesolymphocytes and fifteen per cent small lymphocytes.

The clinical course while in Topeka State Hospital did not change materially. The patient ran a low grade evening fever, the pulse remained rapid with a range of 120 to 130. The chorea was pronounced except when the patient was under the influence of strong sedatives, and her mental state remained unchanged. She died rather suddenly September 25, 1933.

A postmortem examination was conducted a few hours after death by Doctor M. Gerundo, pathologist at Topeka State Hospital, and the following is a summary of the positive findings:

"The body was that of an emaciated white female of about 35 years of age, five feet four inches in height and weighing about 110 pounds. The liver extended about four fingers below the costal margin with the diaphragm at a normal level. The spleen was enlarged to about three times the normal size. Both kidneys were enlarged to twice the usual size and on

section their color was of a uniform dark red. The brain was very soft in consistency but no gross lesions were demonstrated on the cortex. On section, the lateral ventricles were seen to be dilated to about twice the normal size and filled with clear fluid. The white matter was scarred with small punctiform hemorrhages. The basal ganglia and particularly the globus pallidus on the left side appeared soft, and areas interpreted as hemorrhagic and others interpreted as small cavitations due to softening, were observed. Cross section of both peduncles at the level of the locus niger and red nucleus presented petechial hemorrhages. Small hemorrhages were noted around the aqueduct of Sylvius and in the walls of the fourth ventricle.

Microscopic study showed an almost complete degeneration of liver parenchyma with fine fat vacuoles present in the hepatic cells. The spleen showed marked atrophy of the lymph follicles with congestion of red pulp, and hyperplasia of the reticular elements and increase in the connective tissue stroma. The kidneys demonstrated congestion of the glomerular capillaries, edema of the renal tubules with blood and epithelial cells in the lumen, and hemorrhages in the interstitial tissue.

Microscopic examination of stained sections from the various portions of the brain revealed the following: The white matter and cortex showed chiefly some capillary hemorrhage with blood cells extravasated into the surrounding tissue. The blood cells were well preserved, indicating the hemorrhagic areas were of recent date. The cortex showed some congestion but the nerve cells were fairly well preserved. Stained section of the lenticular nucleus and globus pallidus revealed, in addition to the hemorrhagic vascular lesions noted above, a marked degeneration of the nerve cells replaced by an ordinary glia tissue which in places assumed the arrangement of long strips. The gliosis was not, however, as marked a feature as the extensive degeneration of ganglion cells. In the locus niger very few cells showed a normal amount of ferruginous pigment. Most of the cells demonstrated a few granules only. Other sections of the brain taken from the fourth ventricle, the cerebral peduncles and the aqueduct of Sylvius, showed essentially the same vascular lesions as noted above."

The clinical course and pathological study in this case suggests a close relationship between the evident toxemia of pregnancy and

the chorea. The toxemia was manifested by a probable parenchymatous hepatitis and a probable preeclamptic state. The chorea became evident while the patient was seriously ill and followed the above toxemic signs. The significant pathological findings are the advanced nephro-hepatic lesions which bear a close resemblance to those seen in fatal eclamptic cases and the degenerative lesions in the basal ganglia. It is important to point out that the heart revealed no signs of past or present endocarditis.

In summary, the authors suggest that there are probably two types of chorea occurring in pregnancy, which may be difficult to differentiate. One may be considered Sydenham's chorea occurring in pregnancy, and may be associated with the other manifestations of rheumatic fever. The other, which from the limited experience of the authors offers a grave prognosis, is dependent upon the toxemias of pregnancy for its pathogenesis. While the lesions in the brain may bear a close resemblance in both types, the clinical course and the nephro-hepatic lesions may serve to differentiate the toxemic cases from the rheumatic type.

ADDISON'S DISEASE

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In 1855 Addison, the English physician, published for the first time a group of cases in which besides general weakness and anemia a peculiar pigmentation of the skin was one of the outstanding symptoms. All these cases came to autopsy and because the suprarenal glands were found to be diseased in all cases, Addison came to the conclusion that these glands must be the cause of the bronzing of the skin and the other symptoms. Similar observations by other men were soon made and today Addison's disease as the result of hypofunction of the suprarenal glands is a well established clinical entity.

The adrenals, situated at the upper pole of each kidney, show two distinct portions: the central or medullary portion, of epithelial structure, and the outer or cortical portion of connective tissue structure.

Hyperactivity of either the cortex or medullary portion of the suprarenal glands is usually due to some type of tumor. And the symptoms depend upon the age when hyperadrenalism

appears, resulting in pseudohermaphroditism, pubertas praecox, virilism and hirsutism.

Hypofunction of the suprarenal glands as a whole results in Addison's disease and is due to tuberculosis (90 per cent), atrophy or malignancy of the suprarenals.

The most prominent signs and symptoms of the disease are: asthenia, pigmentation, nausea, vomiting, loss of weight, dizziness, hypotension and circulatory failure.

Treatment: Before the development of the suprarenal cortical hormone of Swingle and Pfiffner the treatment of Addison's disease was seldom successful and most cases progressed to a slow, fatal termination.

The object in presenting the following case report is to give the details of a case with Addison's disease, treated with eschatin, prepared according to the method of Swingle and Pfiffner, each cc. of extract presenting thirty grams of fresh beef cortex.

CASE REPORT

Mrs. H. S., age 51, foreign-born, had the regular childhood diseases. About thirty years ago she was delivered of twins at term. One of the babies died at the age of three weeks and the other at the age of five weeks. The cause of death is unknown. In the same year patient had three abdominal operations; during one of which the uterus and both tubes were removed. She made a good recovery and felt fairly well up to about four years ago, when she noticed dark spots appearing in the face, arms, and finally all over the body. She also became gradually weaker and nervous; lost considerable weight, had much headache, dizziness and nausea. Was finally unable to perform her duties as housekeeper.

The family history is not important. The mother died at the age of 74; the father at the age of 65. Cause of death is unknown. Two brothers ages 42 and 48 and three sisters ages 46, 54, and 62 are still alive and well. No history of malignancy or tuberculosis.

Examination: Patient is poorly nourished and seems quite weak. She is five feet and four inches tall, weighs 120 pounds. Temperature 99°; blood pressure, 85/65; pulse 90; eyes react to light and accommodation; nose normal; teeth badly in need of dental repair and a brownish discoloration of the gums is noticed; tonsils show signs of chronic tonsilitis. There

is patchy pigmentation over the entire chest, the color varying from light brown to dark brown, the bronzing more marked in the exposed parts and a fatty tumor the size of a fist below the right scapula. Abdomen examination discloses characteristic patchy pigmentation of the skin, abdominal wall very flabby. The rectus muscles are widely separated, and the examining hand "falls" with ease through the abdominal wall. The spleen is not palpable, liver is not enlarged and there is a slight tenderness over the region of the gallbladder. An old abdominal scar reaches from the umbilicus to the symphysis. No tumors palpable. Uterus and cervix are absent, vagina is normal, tubes and ovaries are not palpable. Extremities reveal very dark, almost black, patches of pigmentation on the upper extremities and less pronounced on the lower extremities, varicose veins in both legs. Patellar reflexes were present and normal, abdominal reflexes could not be obtained, Babinski's reflex negative and Romberg symptom negative.

Laboratory findings: Hemoglobin 75 per cent, red blood corpuscles 4,004,000, white blood corpuscles 5,000; urinalysis, reaction acid, albumin negative, sugar negative, microscopic no pus cells or casts; Wassermann blood test negative.

Diagnosis: Addison's disease.

Treatment: For the last five weeks patient has received intramuscular injections of Eschatin, 1 cc. two or three times a week. There was no other medication.

Results: Patient has gained twenty pounds of weight; is feeling stronger and is now able to do her daily housework. Dizziness and nausea have completely disappeared. She has a good appetite and sleeps well. The pigmentations, still present, are slowly receding. Blood pressure: 125/75.

Comments: Although no conclusions can be drawn from the therapeutic results in one case, I believe that eschatin is effective in prolonging life and relieving symptoms in cases of Addison's disease.

Permanent cure cannot be expected, but the possibility exists that by supplying the necessary cortical hormone, the diseased suprarenal glands, if not completely destroyed, will regenerate and once more undertake their normal physiological function.

EDITORIAL

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A MESSAGE FROM THE INCOMING PRESIDENT

To the Members of the Kansas Medical Society:

The Kansas Medical Society is about to enter upon its 77th year and as the new presiding officer I earnestly solicit the cooperation of every member in helping to make it an aggressive and progressive year.

As I see present conditions there is one big issue confronting us. This is health or sickness insurance and is of vital interest to the public and to each and every member of the medical profession.

This form of insurance has been in operation in European countries for many years; however, the plans vary considerably in the various countries.

The health insurance plan of Great Britain, of which we have heard so much, is an evolution of contract practice by which private clubs were conducted by doctors who each week collected a small compensation in return for which the entire family was attended. They also made arrangements with industries to furnish medical attendance to their employees.

The National Health Insurance Act has created about two hundred insurance committees in England, Scotland and Wales, composed chiefly of the laity to administer the benefits which consist of weekly compensation, medical and dental care, drugs, and hospital service. Each insurance committee is compelled to have a medical service sub-committee. The local practitioners have a medical committee called the Panel Committee. Another committee, the Allocation Committee, is composed of persons appointed by the insurance and panel committees. Each committee has its special function but it dovetails into the work of the other committees which make the huge machine created by the National Health Insurance Act. The doc-

tor agrees to give such services "as can properly be undertaken by general practitioners of ordinary skill and competence" for which he receives about \$1000.00 net per annum and the usual panel averages about one thousand persons.

The insurance plan has greatly increased the work of the doctor as he is consulted about each trifling illness. Patients now go to him for complaints which were formerly entirely untreated or else treated by the patient himself. Clerical work has rapidly increased owing to the numerous records and certificates of the insured person that must be kept and also the various communications with the governmental and other agencies.

Under this health insurance in Europe it has been demonstrated that medical care is of a much poorer quality than is furnished to the indigent poor in America. The time and energy of the physician is so overtaxed by the excessive number of calls he receives that he cannot give his best to the service. One authority in speaking of health insurance in Germany says: "It has worked an injustice on the medical profession that is only paralleled by its injustice to the sick to whom it offers an inadequate, inferior grade of service; the doctor will suffer under the compulsory health insurance but, in the last analysis, it is the people who suffer most."

When people have sick insurance they feel they are free to go to the doctor at any time as they are paying their money and should have some return for it. With compulsory sick insurance it would be very easy to make maligners and hypochondriacs of people so predisposed. Shall we substitute government control in medicine for independent action? Shall individuality, initiative, confidence, courage, efficiency and enthusiasm be surrendered without a blow in our own defense?

It behooves us as a profession to thoroughly acquaint ourselves at once with this subject and meet the issue with a solid front. We should be the leaders in all medical problems.

The October number of the *American Medical Association Bulletin* carries an excellent exposition on this subject. If any member has not received a bulletin, I would urge him to write to Dr. R. G. Leland, Chairman of the American Medical Association Committee on Medical Economics, Chicago, for a reprint of his article.

And furthermore, I should like to suggest that every county society devote an early meeting to the study and discussion of this and other economic subjects. Our profession has been devoting too much time to the scientific side and not enough to the economic side. Perhaps not too much time to the scientific side but not enough to the economics.

It has been proposed that the council at its midwinter meeting in Kansas City, January 5, 1935, name a special committee on medical economics.

I heartily approve of the proposal and I feel that great beneficial results may be accomplished by such a committee.

J. F. Hassig, President-Elect.

HOSPITAL GROUP INSURANCE

Discussion of medical economics continues to hold a prominent place in medical periodicals. In the *Ohio State Journal*, Dr. Clyde L. Cummer in his address as retiring president of the state medical association, quotes the recommendation of their council to the effect that county societies faced with hospital group insurance projects in their communities proceed slowly in giving their approval because of the difficulty in the suggested plans of completely separating hospital from medical service and because of a great possibility, if purchase of hospitalization on a group plan proves feasible, of miseducating the public to the apparent desirability of attempting to obtain medical service in a similar manner.

Dr. Cummer concludes his remarks upon the subject: "In spite of our intense dislike and distrust, based on our conception of public good, it is possible that the avalanche which has engulfed other groups much stronger than ours,

will overtake us. When our opposition proves futile, if this be the unhappy outcome, it is incumbent upon us collectively and individually, to bend every effort to secure the recognition of those principles which were so well expressed in the resolution adopted by The American Medical Association at the Cleveland meeting, principles which are based firmly on the rightful conception of relationship between doctor and patient."

Dr. Robert B. Greenough, in his inaugural address before the recent clinical congress of The American College of Surgeons, in Boston, refers to "the profound changes which have taken place in our civilization in the past twenty years. The mechanical age, with its mass production methods and the unprecedented advance in science, have brought new problems in political economy and have forced us to discard many of our older methods and ideals and to seek new patterns on which to build our economic structure."

Dr. Greenough points out the classes of the community according to their ability to pay for hospital and medical service. The intermediate group, those of moderate means, who can pay for minor medical service but cannot finance unaided the expenses of prolonged or serious illness within their restricted incomes. It is to this group of the population that it has been proposed that a prepay insurance principle be applied. The problem Dr. Greenough believes to be a local or community one to be studied and solved by individual committees and by trial and error, if by no other means and he urges that the medical profession take the lead in formulating the solution, which he believes will vary in different communities. The suggestion is offered that physicians should seek the cooperation of other groups such as sociologists and economists in working out their plans.

Dr. Greenough's address may be taken as the official expression of the college of surgeons upon pertinent medical economic questions; and as a statement of position, it appears conservative in view of the majority report from

the Committee on the Cost of Medical Care and the radical plans now being fostered and advocated by certain wealthy and highly influential foundations.

REPORT ON NURSING SCHOOLS

The Committee on Grading of Nursing Schools of The National League of Nursing Education, after eight years of investigation reports that under-education and overproduction are the chief ailments of the nursing profession. The problem of the nurses education the committee found to be closely associated with that of overproduction because of the faulty application of the apprentice system and the use of nursing schools to provide service to the hospitals. Of the 1583 nursing schools of the United States there are three types, a few good ones, a few which are very poor and a good many which are neither good nor poor. The report believes that the poor and the mediocre schools are subordinated to the hospital. The present system is not attracting as many women of adequate capacity and basic training as would be desirable and it is not giving them the quality of training which fits them for the demands of their professional career.

The investigating committee, in concluding its report, states that, "the fundamental cure of this evil can be effected only by the development of nursing schools which are directed with a primary educational aim and animated by professional ideals. They must function as educational institutions."

The adoption of these recommendations would mean the abolishment of most of the training schools in the United States and the formation of a new class of partially trained women to perform most of the more ordinary duties in caring for the sick. This will doubtless increase employment for the reduced number of trained nurses but will it result in better care for the sick? We as physicians have our doubts.

MILLER VS. BANNER COUNTY

The following Nebraska supreme court decision outlined in the November issue of the Nebraska State Medical Journal illustrates the obligation placed upon county commissioners in that state for medical care of indigent persons.

Clarence Hooley, a person who had received aid from Banner county for several years, was stricken with a ruptured appendix while on a visit to a neighboring county. Dr. A. L. Miller, the physician called upon the case, recommended an immediate operation, and telephoned a Banner county commissioner for approval of a fifty per cent fee, and hospitalization expense. Despite the fact that authorization could not be obtained, the physician proceeded with a successful operation, and upon refusal of payment by the county, brought suit to recover in the district court. A decision in favor of Dr. Miller was appealed to the supreme court, which held as follows:

"In the present instance we have a case of an emergency, where an immediate operation was necessary for the saving of human life. No county physician appears in the picture, and the county board has wholly failed to provide the essentials of the necessary care that common humanity requires. Obviously under these circumstances, the rule our statutory provisions imply and the history of poor relief in all jurisdictions sustains governs, viz., That in cases of emergency, a physician should, if reasonably possible, attempt to communicate with the proper corporate authorities charged with the care of the poor, but if an arbitrary refusal is given, or if such corporate authorities be non-committal, the necessary services may be rendered notwithstanding, and the law imposes an obligation upon the county to pay the reasonable value of such services."

Although the case is not entirely irreversible by reason Banner county did not employ a county physician, it is said to be of considerable interest to the Nebraska profession.

MEDICAL SCHOOL CLINIC

RUPTURED GASTRIC ABSCESS WITH GASTRIC CARCINOMA

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While perforation is a complication often noted in the course of gastric ulcer, and reports on this condition abound in the literature, there are fewer reports of a similar complication in the cases of gastric carcinoma associated with an ulcer, but very few cases of a gastric carcinoma associated with an abscess of the stomach wall which has ruptured into the peritoneal cavity.

Britton's statistics, which are often quoted, show that seventeen per cent of carcinomas of the stomach had perforated in a series of 507 fatal cases. Perry and Shaw in a series of 306 fatal cases of carcinoma of the stomach report thirteen perforations and seven localized abscesses. They also report from Guy's Hospital two cases of abscess, one a small abscess between the stomach and the abdominal wall, another with a small abscess over the lesser curvature. McCoskey reports an interesting case of carcinoma of the stomach with a perigastric abscess in a young woman who was pregnant, but died before delivery. Autopsy revealed a ruptured perigastric abscess with peritonitis.

Perforation of the stomach from any cause may be either acute or chronic. In the first mentioned variety, the perforation is accompanied by the symptom of spreading peritonitis. With the chronic form there is time for the development of a reaction on the part of the peritoneum, and by organization of exudated lymph adhesions, bound together adjacent viscera and endothelial surfaces, and so wall off the area of infection, which most likely occurred in the following case.

CASE REPORT

L. M., white male, aged 60, entered St. Margaret's Hospital on November 12, 1930, complaining of loss of weight and weakness.

Patient's history dates back to one year ago with a gradual onset of weakness and occasional vomiting. He has lost forty pounds of weight in the past year. Vomiting appears immediately after meals with no blood in vomitus. Patient "craves" food; he can eat any food with no

particular pain or discomfort, and has no tarry stools.

Examination of his abdomen revealed generalized tenderness with extreme tenderness in the epigastrium, with the presence of a movable mass about the size of a lemon located in mid-epigastrium. History and examination otherwise negative.

Daily notes on patient are as follows: November 13, 1930: Patient complains of considerable pain over left chest, anteriorly. Temperature 98°, pulse 80 and respiration 18. November 14, 1930: Patient refuses barium for x-ray and refuses all treatment. Temperature 98°, pulse 78 and respiration 18. November 15, 1930: Patient markedly dehydrated. Vomits frequently and unable to retain food. 2000 cc. of saline given by hypodermoclysis. Temperature 98°, pulse 70 and respiration 20. November 16, 1930: Patient is much weaker. 2000 cc. of saline given by hypodermoclysis. Temperature 98.8°, pulse 80 and respiration 20. November 17, 1930: Patient is almost comatose and unable to answer questions. 2000 cc. of saline given by hypodermoclysis. November 18, 1930: Patient is comatose, cold and flushed. Respiration is 9 per minute. Temperature 98.2°, pulse 82 and respiration 9. November 19, 1930: Patient is comatose. Respiration is 6 per minute. Patient died at 3:00 p. m.

Laboratory findings are as follows: Red blood cell count 4,100,000 and white blood cell count 9,200. Urine essentially negative. Feces revealed a positive benzidine test for blood. Blood Wassermann was three plus. Blood chemistry showed a nonprotein nitrogen of 54.5.

x-Ray report shows a typical picture of fibrosis of the stomach with barium trickling through the stomach.

Autopsy report on the gastro-intestinal tract is as follows:

The esophagus presents nothing abnormal. The stomach measures 10x10x5 centimeters, the contents of which is about 20 cc., and a brownish, stringy fluid. The mucosa of the stomach wall is markedly irregular (Fig. 1). The wall is thickened and the serosa on the left side presents an abscess. The mucosa of the stomach is thickened and reddened, showing marked rugae. There appears to be a great deal of cellular tissue present throughout the entire mucosa, especially at the greater curvature, which appears carcinomatous. The wall is

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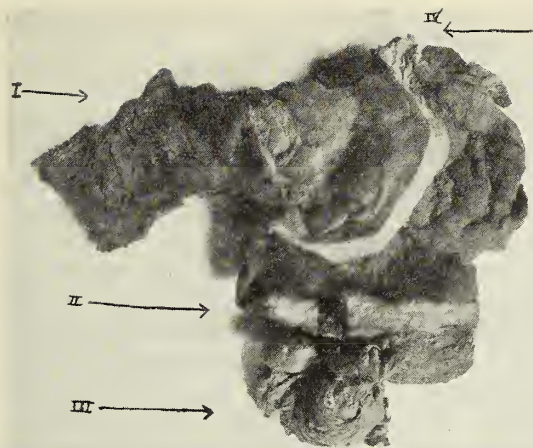


Fig. 1. Portion of the stomach, showing 1. Duodenum. 2. Stomach wall (gastrica fibrosa). 3. Abscess ruptured into the peritoneal cavity. 4. Esophagus.



Fig. 2. Section through gastric wall, showing adenocarcinoma.

markedly infiltrated, thick and fibrous, giving the appearance of a scirrhus carcinoma of the stomach.

The regional lymph nodes around the stomach are enlarged, firm and show a carcinomatous invasion. The mass outside the stomach is rather large. The abscess is adherent superiorly to the diaphragm, laterally to the spleen and exteriorly to the pancreas. Much pus is contained within its walls, a portion of which had been expelled through the rupture in the outer wall into the lesser peritoneal cavity. No ulceration or perforation from the stomach into this mass outside the stomach is noted. The ruptured abscess resulted in a peritonitis, plastic type, which revealed on bacterial examination a short

gram negative bacteria, characteristic of colon bacillus.

Microscopic examination: Sections of the stomach taken through the thickened portion, and apparently in the neighborhood of the tumor, shows considerable postmortem autolysis of the surface portion of the mucosa near the edge of the abscess. Extending nearer the tumor the necrotic tissue blends into a mass of necrotic hyaline material and is continuous with a thickened muscular wall. In the thickened muscular wall and subserosa there is extensive infiltration with tumor cells. Large and small nests of these cells are scattered throughout and embedded in a dense stroma which shows some infiltration with mononuclear leukocytes. Tumor cells seem to be more abundant in the subserosa (Fig. 2), which is definitely thickened and fibrosed. A fibrous exudate may be seen covering the outer surface.

Another section also shows a very marked thickening of the muscular wall, the tumor tissue in the mucosa not showing much evidence, but the tumor tissue being particularly abundant in the musculature and into the subserosa. Rather extensive masses of these cells embedded in loose fibrous tissue stroma may be seen scattered through the musculature and into the subserosa.

COMMENTS

This case presents several interesting features:

1. The carcinoma of the stomach is of an unusual, diffuse, infiltrative type, involving the large portion of the stomach wall, presenting somewhat the appearance of a leather bottle stomach, but localized only to the lower and outer half.

2. It is also interesting to note the presence of a large area of organizing fibrinopurulent exudate adjacent to the posterior wall, being the wall of the abscess.

3. The wall of the stomach was intact with no perforation, the perforation being in an independent part of the abscess wall.

4. The relative infrequency of a carcinoma of the stomach with an abscess.

5. The presence of pus with absence of leukocytosis and temperature.

6. No history of elevation in temperature, the absence of temperature and leukocytosis while in the hospital.

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2. Perry and Shaw, Cancer of Stomach, 1916, 101.
3. McCaskey, Medical Records, Oct. 10, 1903, 576.

THE LABORATORY

METHODS OF TYPING PNEUMOCOCCI

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Pneumonia, both lobar and broncho-, due to the pneumococcus, is one of the principal causes of death in the United States. Until 1929 it was generally accepted that there are three specific types of pneumococci and an heterogeneous group called by Dochez and Gillispie (1913) type IV. Olmstead (1917) discovered that the latter type is composed of a number of small groups rather than single strains. Recently Cooper et al. (1929, 1932) working in Park's laboratory, have divided group IV into twenty-nine new types. Thus at the present pneumococci are divided into thirty-two types. Park (1933) says that it is possible to identify fifty or sixty types but only seven or eight are prevalent and therefore important.

Sutliff and Finland (1933) report six types as being responsible for 84.1 per cent of their cases of pneumococcus lobar pneumonia. They list them relative to their order of frequency as types I, II, III, VIII, V and VII. They report also the order of frequency of the ten types, e.g., III, VIII, XVIII, X, V, VII, XX, II, XI and XIV which were responsible for 81.1 per cent of their cases of pneumococcus bronchopneumonia. Their findings are quite similar to those of Avery et al. (1917) who pointed out that types I and II were responsible for 66.8 and type III for 13.0 per cent of 454 cases of pneumococcus lobar pneumonia studied by them.

The pneumococcus is usually identified as a capsulated, gram-positive, lance-shaped Diplococcus that is bile soluble and pathogenic for white mice. It may be divided into the types referred to above by means of the agglutination reaction or the Quellung phenomenon of Neufeld. Diagnostic sera for most of the common types is now available. Specific type determination is done usually for three reasons:

1. Because some clinicians desire to treat pneumonia due to types I or II with a type specific immune serum or antibody solution.
2. They may desire to consider such information in making a prognosis.

3. The data when obtained affords a basis for statistical studies, etc.

Diagnostic agglutinating sera for types I, II and III have been available for a great many years. Since specific immune serum or antibody solution is available commercially for types I and II only, and since the three types are responsible for eighty per cent of pneumococcus lobar pneumonia it would seem obvious that from the standpoint of treatment and to a large extent for the other information mentioned above, the use of the agglutination test in type determination is not obsolete. In fact it is quite necessary for one to employ it as a control when he is attempting to familiarize himself with the Neufeld reaction. When the agglutination test is used one classifies as type IV all organisms not agglutinated by some one of the three type specific sera. Thus the old type IV includes all of the newer types as well as many yet undescribed.

The technique for the rapid blood broth and the slower mouse method employed in type determination by agglutination and precipitation may be described and illustrated as follows: In the rapid method the broth is inoculated with a few loops of washed sputum that has been ground, if necessary, with sterile sand. The tubes are incubated for several hours at 37° C. and examined microscopically. If pneumococci are present as the predominant organisms, the broth culture is used as a suspension of pneumococci to mix with equal volumes of types I, II and III immune sera respectively that have been properly diluted. The agglutinin titre of each serum is low when compared with that used in typhoid identification. In pneumococcus work titres of 1-5 and 1-20 are the ones employed since diagnostic sera of high titre is not commercially available and the average hospital is not prepared to produce immune serum of the various types. In setting up the test many employ two concentrations of type II and III immune serum, one giving the titre of the serum and the second using undiluted immune serum. This is done to detect subgroups of type II and III, since such are known to exist and to be agglutinated by the undiluted serum rather than the serum diluted to titre.

In the mouse method the sputum is ground, if necessary, with sterile sand and a small amount of sterile saline added and the grinding continued. After the sand has settled, the supernatant fluid is a saline suspension of pneu-

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nococci, the numbers being inadequate for direct agglutination. One-half cc. of this is injected intraperitoneally into a white mouse. Several hours later when the mouse is quite ill it is killed and fastened in a supine position onto a board. The abdomen is opened and the margins of the incision kept apart by pins that are inserted into the board. Thus a receptacle is made of the abdominal cavity. Smears and cultures are made from the peritoneal exudate and heart blood, then the peritoneal cavity is washed out with one or two cc. of saline. The saline washings are put into small test tubes and centrifuged at slow speed to throw down the flakes of fibrin and cellular debris leaving the bacteria suspended. The supernatant bacterial suspension is decanted and may be used for agglutination with diagnostic type sera or may be centrifuged at high speed, the supernatant fluid removed and used for precipitin tests with diagnostic type sera and the sediment resuspended in saline and used for type agglutination tests. The following tabulated summary of methods of pneumococcus typing by agglutination and also precipitin tests was suggested by Blake (1917):

Methods for Determination of Pneumococcus Types by Agglutination

Pneumococcus Suspension .5 cc.	Ser. I (Undil.) .5 cc.	I (1-10) .5 cc.	II (Undil.) .5 cc.	II (1-10) .5 cc.	III (Undil.) .5 cc.	III (1-10) .5 cc.
Type I	++	++	—	—	—	—
Type II	—	—	++	++	—	—
Type II	—	—	+	—	—	—
Subgroups						
Type III	—	—	—	—	++	++
Type III	—	—	—	—	+	—
Subgroups						
Type IV	—	—	—	—	—	—

Method for Determination of Pneumococcus Types by Precipitation

Supernatant peritoneal washings .5 cc.	Ser. I (1-10) .5 cc.	II (Undil.) .5 cc.	II (1-10) .5 cc.	III (1-5) .5 cc.
Type I	++	—	—	—
Type II	—	++	++	—
Type II	—	+	—	—
Subgroups				
Type III	—	—	—	++
Type IV	—	—	—	—

Instead of .5 cc. amounts of suspensions of diluted immune serum being used in the test one may employ .2 cc. instead. This gives a total volume in each tube of .4 cc. Where small test tubes are used, this amount is adequate.

In 1902 Neufeld reported that when specific immune serum obtained from rabbits is mixed with pneumococci in a fresh state, there results a swelling (Quellung) of the peripheral zone of the organism. He added methylene blue to the mixture to stain the organism. This method has been popularized recently by Sabin (1933).

He recommends that in carrying out the test one places small flakes of sputum containing the pneumococci on cover glasses and adds to each bit of sputum an equal amount of undiluted type specific immune serum from rabbits. Thus type I serum is added to flake one, type II serum to flake two, etc. A loopful of standard alkaline methylene blue is also added to each preparation. The cover glasses are then inverted over special hollow ground slides sealed with petrolatum. The preparation is examined either immediately or as Sabin recommends after two minutes using an oil immersion lense.

In negative reactions the capsule is either not observed or appears as a halo. In a positive reaction there may be a swelling of the capsule but the important thing is that it takes on a ground glass appearance. The bacteria within the capsule stain blue regardless of the capsular reaction. It must be remembered that this reaction is obtained only when specific rabbit immune serum is employed; it does not involve agglutination. The test is reliable only when performed by one who is a reasonably good microscopist.

J. M. Frawley, Fresno, Calif. (Journal A.M.A., Sept. 29, 1934), has given prophylactic injections of 8 cc. of active undenatured *Haemophilus pertussis* antigen to a group of 505 nonimmune school children. Injections were followed by practically no local or systemic reaction. Since vaccination, these children have been kept under observation. Forty-nine have been exposed to whooping cough without developing symptoms; sixteen were exposed at home and thirty-three at school. In thirty-one children, whooping cough developed. In twenty-five cases the paroxysmal stage was of less than one week's duration, in five cases of from one to two weeks' duration and in one case of two weeks' duration or more. As controls, 174 nonvaccinated children from the same homes and classrooms who had whooping cough during this period were classified on the same basis as the vaccinated children. The duration of the paroxysmal stage in these cases was as follows: In nine cases it was less than one week, in forty-nine cases from one to two weeks, and in 116 cases two weeks or more.

MEDICAL LITERATURE

Edited by

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PULMONARY ABSCESS WITH CASE REPORTS

At the Massachusetts General Hospital certain aspects of pulmonary abscess have been studied. Two hundred and twenty-seven cases occurring between 1909 and 1924 were studied by Lord. The present study includes 210 cases occurring between 1924 and 1932, all of which were traced to termination in death or present condition from two to nine years after discharge. The earlier study shows that the etiology of the abscess, in one out of three cases, was traced to operations in the upper respiratory tract. Removal of tonsils and adenoids comprised about sixty-nine per cent of the operations, teeth extraction about twenty-two per cent and upper respiratory operations about nine per cent. The present study shows the etiological importance of operation to have increased to one out of two. This may be because upper respiratory operations are more frequently performed than formerly. Bronchoscopy was found helpful in the exact localization of the abscess in certain cases but was not of value in the treatment in the absence of foreign body as cause. Lipiodol is useful in the differentiation of lung abscess from bronchiectasis. The expectation of complete recovery from lung abscesses has risen from one out of ten cases to one out of five. Short previous duration is one of the most important factors in favoring the chances of spontaneous recovery. Of therapeutic measures, there is no evidence that neoparsphenamine is of value. Artificial pneumothorax has been disappointing. Drainage is indicated only under certain conditions.

King, Donald S., and Lord, Frederick T. Certain Aspects of Pulmonary Abscess from an Analysis of 210 Cases. *Ann. Int. Med.* 8:468-474 (October) 1934.

NATURE OF PELLAGRA

A number of years ago Goldberger made a study of pellagra and came to the conclusion that it was due to a dietary fault, lack of vitamin G. This theory has been accepted throughout the country except in the region where pellagra is frequent. There the opinion is divided. Some agree with Goldberger and others believe that in addition to dietary deficiency there are other causative factors operating. The

author points out the disease occurs among people of means who are well nourished and whose diets are not deficient, and that the disease is not always readily amenable to dietary therapy. Moreover, the disease presents certain epidemiological features resembling influenza or measles. Due to the epidemiological aspects and also to certain findings of Goldberger the author suggests that whole disease should be open to re-examination.

McLester, James S. The Nature of Pellagra: A Critique. *Ann. Internal Med.* 8: 475-482 (October) 1934.

INTUSSUSCEPTION IN CHILDHOOD

Between 1908 and 1932, 372 cases of intussusception were encountered in the Children's Hospital in Boston. Eighty-seven per cent of the cases occurred in children under two years of age, and seventy per cent in children between four and eleven months. The youngest patient was seventeen days old and the oldest eleven years. Treatment was by operative reduction and resection when reduction failed. Of thirty resections, only two were successful. In the last five years only two resections were necessary in ninety cases. Mortality has been reduced from fifty-nine per cent in the 1908-1912 group to fourteen per cent in 1928-1932 group. In the last five years sixty cases were seen and operation was performed without mortality.

Ladd, Wm. E. and Gross, Robt. E. Intussusception in Childhood. *Arch. of Surgery* 29: 365-384. (September) 1934.

IRRADIATION IN LYMPHOSARCOMA

This is a statistical analysis of 2,524 cases collected from the literature and from the writer's observation. In lymphosarcoma the five year survival amounts to thirty per cent and the ten year survival or cure amounts to ten per cent or fifteen per cent. In Hodgkin's disease the five year survival is from fifteen per cent to thirty-three per cent, while a ten year survival or cure occurs in eight per cent of the cases or less. However in leukemia no cure is believed to result from irradiation. In the cases of both lymphosarcoma and Hodgkin's disease the average expectation of life was increased several years, but in the case of leukemia the effect of irradiation on the average life duration was rather insignificant. However, the symptomatic improvement is remarkable and the patient's efficiency is increased at least sixty per cent during the major duration of the disease.

Leucutia, T. Irradiation in Lymphosarcoma, Hodgkin's Disease and Leukemia. *Amer. Jr. Medical Sciences.* 188:612-623. (November) 1934.

TUBERCULOSIS ABSTRACTS

MEASURING ACTIVITY OF PULMONARY TUBERCULOSIS

A tuberculous process that is in a state of instability, whether tending to progress or retrogress, is said to be active. An active tuberculous process may be "latent" and cause no symptoms (pathological activity) or it may cause reactions of which the patient is aware (clinical activity).

All degrees of progression, retrogression, quiescence, and healing may be present simultaneously in the same lesion. Little wonder then that the practical clinician who tries to determine whether or not tuberculosis is active, should grope for his bearings. Only by a careful appraisal of all scraps of information can he discern the trend of the disease.

Since sanatorium experience teaches that a tuberculous process may spread in an amazing manner without clinical symptoms or signs, one is justified in inferring that there must be in the population many individuals who are unaware that they are harboring a progressive tuberculous process. This is strikingly borne out by a report by Fellows, who studied the physical findings of 13,000 employees of the Metropolitan Life Insurance Company regularly examined with the aid of the fluoroscope and, when indicated, with stereoscopic films. Of the 141 cases of active tuberculosis discovered by these means, 33 per cent were symptom-free and 58 per cent had no rales.

The constitutional symptoms of fever, rapid pulse, loss of weight, fatigue, malaise, irritability, night-sweats, gastric disturbances, etc., are indications of toxemia and activity.

Localizing symptoms, such as frank pleurisy, wet or dry, indicate an extension of involvement, hence activity.

Hemoptysis should usually be considered an indication of activity.

Increased cough and expectoration may indicate a recrudescence, especially where a previously mucoid sputum becomes mucopurulent and where, in some cases, the Gaffky count is appreciably increased.

An increase of physical signs may accompany a very definite improvement in the clinical condition with a clearance in the x-ray shadows, and in a few cases physical signs may decrease while patients apparently progress unfavorably.

Despite the reports that persistently positive sputum is consistent with health, it is difficult to divorce one's self from the impression that a positive sputum does not indicate at least a smoldering pathological activity.

Elastic fibres when found in the sputum always indicate activity. Cavity is all too frequently silent from the standpoint of physical signs.

Spontaneous pneumothorax in the tuberculous is generally considered as the result of activity, though at times it is impossible to demonstrate such activity by the roentgenogram.

Serial roentgenograms give us by far the best single examination information obtainable. Shadows with ill-defined, nebulous borders seem to indicate activity, while those with clear-cut borders are more liable to indicate an inactive condition.

In certain instances, however, particularly in the advanced cases with a multiplicity of lesions, it must be admitted that the x-ray has certain limitations because minor progressions or remissions in activity are obscured.

The tuberculin test is of no help in determining activity. Badger concluded—"The individual response to measured dilutions of tuberculin bore no consistent relation to the activity or inactivity of the tuberculous process."

Breck reports that with the Schilling count tuberculin subcutaneously injected gives very definite information as to activity, but to date our investigations, still incomplete, indicate that this points to sensitivity rather than degree of activity.

The leukocyte count affords us a method of obtaining a biopsy, so to speak, which mirrors the pathological tuberculous process and thus gives valuable prognostic information. In Medlar's interpretation the polymorphonuclear, the lymphocyte and the monocyte are all concerned in the pathological processes at some time during the infection. Some investigators favor the polylymph ratio, others the monocyte-lymph ratio. Recently a slide rule has been devised by which Medlar's pathological conception, based on the leukocyte count can be expressed in the form of an index.

While the Schilling count is of distinct value, yet considering the extra time, the skill required in differentiating the cells, and the possibility of error, it is our belief that, with the possible exception of the acute tuberculous process, it does not give added information that cannot be obtained from Medlar's formula.

The sedimentation test may indicate activity of the lesion but cannot be depended upon to foretell impending disaster. It conforms rather snugly to clinical impressions. Like the leukocyte count we do not believe that in the very early stages of minimal disease it gives as much information concerning activity as can be obtained by serial roentgenograms. In other words, both of these reactions seem to lack definite information when it is most needed and the x-ray has to be relied upon almost exclusively when a small lesion is first discovered.

"While patients are under observation and treatment, serial roentgenograms afford the best means of determining activity; next in order of value the leukocyte reactions, red cell sedimentation rate; lastly, physical signs and symptoms. In a disease as complex as tuberculosis no one procedure is infallible, and the best information is obtained by a careful and intelligent interpretation of all methods available that have given evidence of merit."

Discussion and Summary of the Whole Problem with Especial Reference to the Study of the Leukocyte Count in Pulmonary Tuberculosis, Wm. H. Ordway, New Eng. Jour. of Med., August 9, 1934.

Of 5,377 cases of scarlet fever studied, Pascal F. Lucchesi and James E. Bowman, Philadelphia (Journal A.M.A., Oct. 6, 1934), administered scarlet fever antitoxin in 3,045 and not in 2,332. In a comparison of the serum with the nonserum treated cases, a slight decrease in the number of febrile days in the mild and moderate groups was noted, and a substantial reduction in the severe group. The incidence of complications was definitely less in the serum treated cases in comparison with those not so treated. This effect was most prominent in the severe group. Serum reactions occurred in 36.3 per cent of the patients treated with antitoxin. The use of ephedrine compounds had a slight effect on the prevention of serum disease.

(Bibliography Continued from Page 451)

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NEWS NOTES

An apology is due Dr. W. M. Brewer, Hays, whose name was inadvertently omitted from the list of associate editors announced in the November issue.

SECRETARY'S AUDIT

The following is an official audit report by J. S. McDonald and Company, certified public accountants, of Dr. J. F. Hassig's accounts as secretary of the Kansas Medical Society. The audit was requested by Dr. Hassig prior to transfer of the records to the central office in Topeka, and includes his entire tenure of office since May 18, 1917, inasmuch as other requests from him for verification had been waived by the Society. Disbursements mentioned therein pertain to transfers to the treasurer, and exhibits A, B and C are omitted by reason of their length.

November 10th, 1934

The Kansas Medical Society
Kansas City, Kansas

Gentlemen:

We have examined the books and records of Dr. J. F. Hassig, Secretary of The Kansas Medical Society, for the period beginning May 18th, 1917, to and including November 5th, 1934.

The collections for the period above mentioned, as shown by the books and records, total \$123,-438.32. Returned checks, during this period, amount to \$221.00, leaving net collections, as shown by the records, \$123,217.32. Payments to date of this report, including check for \$1316.00, which comprised the total cash on hand at this time, amount to \$123,723.28. During 1933, check tax of four cents was deducted, making total disbursements, \$123,-723.32.

The payments show an excess over collections, amounting to \$506.00; of this amount, \$502.00 is accounted for, during the period from 1918 to and including 1920. During that time, Dr. Hassig served in the army and it is our information, his secretary, who was in charge of his affairs during his absence, collected this \$502.00, making no record of same on the collection record, the correct collections should include the additional \$502.00. The balance of the difference of \$4.00, arises from the fact, during the year 1923, payments show an excess of \$6.00 above collections for the same period, further, in 1926, payments show \$2.00 less than the collections for the same period, leaving a net overage of \$4.00, which, together with the \$502.00 above mentioned, make the overage of \$506.00. This overage may be accounted for from collections on returned checks which were not shown; the overage herein mentioned, was treated by us as collections for the period.

During the year 1933, we find, in our examination, that the collections which the Secretary was making, were being deposited in The Fidelity State Bank in Kansas City, Kansas, when

the bank moratorium went into effect, the Kansas Medical Society had on deposit with this bank, the sum of \$868.00 which the secretary made up personally, and advanced to the new bank account. We find the secretary is still holding certificates of deposit of The Fidelity State Bank, showing they have not paid the sum of \$206.15 of the \$868.00, which the secretary advanced. He is holding this personally and advised us it was his wish the record be made clear on his collections and disbursements and for that reason, he made good the deposit with The Fidelity State Bank of Kansas City, Kansas.

Exhibit "A", hereby attached, reflects collections and returned checks for the period of this examination.

Exhibit "B", hereby attached, reflects disbursements by check, to Dr. Munn and Dr. Gray, as Treasurers respectively, for the period of this examination.

Exhibit "C", hereby attached, reflects the detail of returned checks and reconciliation of collections with disbursements.

We wish to express thanks to Dr. Hassig and his secretary for the cooperation during the examination in question. If there is any further information desired concerning this examination, we will be only too glad to go into same at any time agreeable.

Very truly yours,

J. S. McDONALD AND COMPANY.

CORRESPONDENCE

The letter quoted below has been received from Mr. John M. Gray, Kirwin:

"Kirwin is without a doctor, and needs one badly. The community is one of the best in the state, having a population of 550, electric lights, a water plant, good schools, two churches and many other advantages. Also, it is situated in the best farming country in our county. We are a live town, and if you know of any doctor who is thinking of locating or making a change, please refer him to our city that he may look us over."

RADIO AND IMMUNIZATION

Two projects in connection with diphtheria immunization and educational radio talks have been recently announced by the Sedgwick County Medical Society.

The immunization project is to proceed through November and December, and is the first step in a preventive medicine campaign sponsored by the society. Toxoid is to be furnished to physicians, special fees will prevail, and a goal of immunization for 14,000 children has been established.

Radio programs under direction of the committee on public education were instituted on October 25. Fifteen minutes every Thursday at 9:00 p. m. has been secured over station KFH, and health talks prepared by the American Medical Association, and presentations on the romance and history of medicine written by Mac F. Cahal, executive secretary, are being broadcast.

JOURNAL SECTIONS

Drs. J. L. Lattimore and William C. Menninger, Topeka, have accepted invitations from the editorial board to supervise respective sections of the JOURNAL. "The Laboratory", under direction of Dr. Lattimore, will consist of articles by himself and other members of the Society prominent in that field. Dr. Menninger will continue to edit "Medical Literature" presenting abstracts from current medical publications.

STATE MEETING COMMITTEES

The following committees have been appointed by the Saline County Medical Society to supervise arrangements for the state meeting to be held in Salina on May 8, 9 and 10, 1935: Program: Drs. E. G. Padfield, L. S. Nelson; Buildings: Drs. C. M. Fitzpatrick, Earl Vermillion; Eye, Ear, Nose and Throat: Dr. Ned Cheney; Commercial Exhibits: Dr. H. N. Moses; Scientific Exhibits: Dr. W. R. Dillingham; Golf: Dr. E. M. Sutton; Entertainment: Drs. R. R. Sheldon, Maurice Snyder, G. E. Stafford, D. A. Anderson, K. L. Druet.

TWENTY-FIVE YEARS AGO

Excerpts from Journal, December, 1909

The Mississippi Valley Medical Association held its twenty-fifth annual meeting in St. Louis, October 12, 13 and 14. Among those who presented papers were Drs. Beebe, Oschner, Crile and Knavel. The Association endorsed Dr. Wiley in his fight against the adulteration of foodstuffs.

A Reno County woman writes that tuberculosis and insanity are caused by rats and puffs in the hair and demands an investigation by the board of health.

"In the treatment of superficial burns it is becoming quite common to use a solution of picric acid in the proportion of one dram of the acid to a pint of water. Gauze saturated in this solution and applied to a superficial burn will quickly relieve pain and promote healing."

DEATH NOTICES

Dr. Herman Holmes Bogle died at his home in Pittsburg on October 26. He was 67 years of age, a graduate of College of Physicians and Surgeons, Chicago, Illinois, in 1893, and had lived in Kansas since 1901.

Dr. Ira Hugh Dillon died in Topeka on November 16. He was 61 years of age, and a graduate of the University of Illinois, Chicago, in 1898.

Dr. M. F. Jarrett died at his home in Fort Scott on November 21. He was 77 years of age, a past president of the Kansas Medical Society, a graduate of Bellevue Hospital and Medical College, New York, in 1892, and had practiced in Kansas since 1901.

Dr. Horace Eaton Potter died at his home in Clifton on October 23. He was 75 years of age, and had practiced in Clifton since his graduation from Homeopathic Medical College, St. Louis, Missouri, in 1885.

MEMBERS

Dr. Howard E. Marchbanks, Pittsburg, attended the annual meeting of the Central Society for Clinical Research in Chicago on November 2-3.

Dr. H. O. Closson, Ashland, left recently for St. Louis, Missouri, where he will spend two weeks in postgraduate work at Washington University.

Drs. John A. Billingsly and L. B. Spake, Kansas City, returned November 15 from the Southern Medical Association Conference at San Antonio, Texas.

Dr. O. W. Davidson, Kansas City, was in St. Louis, Missouri, on October 22-24 for a meeting of the southwestern branch of the American Urological Society.

Dr. Murray C. Eddy who has practiced in Colby for the past seven years is moving to Hays.

Dr. J. L. Lattimore, Topeka, attended the pathological conference at the Mayo Clinic.

Dr. L. A. Jeffrey, Holton, has temporarily closed his office, and will spend the winter in Florida.

Drs. C. L. Miller and Earle G. Brown, Topeka, were in Des Moines, Iowa, on November 12-13 for a conference of Midwestern Vital Statistics Registrars.

Dr. F. S. Carey, Kansas City, returned November 16 from a two weeks trip in the east where he attended postgraduate clinics of the American Medical Association in Philadelphia, Pennsylvania.

Drs. R. F. Kippenberger, Scott City, C. S. Adams, Macksville, and F. P. Helm, Topeka, are reported as additional members attending the Oklahoma City Clinical Society Fall Conference at Oklahoma City, Oklahoma, on October 29-November 1.

Dr. C. C. Nesselrode, Kansas City, was recently elected president for 1935 of the Kansas City Southwest Clinical Society. Other officers elected from Greater Kansas City are as follows: Dr. M. B. Simpson, vice president; Dr. Ralph R. Coffey, secretary; Dr. H. S. Valentine, treasurer; Dr. I. H. Lockwood, director of clinics; Dr. Max Goldman, associate director; Dr. R. L. Diveley, editor. Executive committee: Drs. J. V. Bell, R. L. Diveley, A. M. Ginsberg, A. C. Griffith, M. A. Hanna, M. J. Owens, E. H. Skinner and Raymond Teall.

COUNTY SOCIETIES

The Brown County Medical Society met at the home of Dr. E. K. Lawrence, Hiawatha, on October 26. Papers were presented by Dr. Ray Meidinger, Highland, on "Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis"; by Dr. W. R. Hill, D.D.S., Horton, on "Treatment of Fracture of the Jaw"; and by Dr. E. K. Lawrence on "Diagnosis and Treatment of Primary Syphilis." After the meeting the Auxiliary joined in a social meeting.

Members of the Comanche County Medical Society attended a dinner meeting of the society on November 14, at Protection.

Dr. F. A. Kelley, Winfield, spoke on "Pernicious

Anemia" at a regular monthly meeting of the Cowley County Medical Society in Arkansas City on October 25. Dr. C. T. Ralls, Winfield, led discussion on the topic, and several clinical cases were presented.

The Edwards County Medical Society met at Kinsley on November 23. A dinner was served, and Dr. Paul A. O'Leary of Mayo Clinic, Rochester, Minnesota, was guest speaker on a subject of "Newer Concepts of Syphilis." A large crowd was present, and the Ford County Medical Society adjourned its regular monthly meeting to attend.

A business meeting of the Franklin County Medical Society was held in Ottawa on October 31. Dr. H. J. Terrill, Ottawa, was elected president for the next year, Dr. W. L. Jacobus, Sr., Ottawa, vice president, and Dr. Lerton V. Dawson, Ottawa, was reelected as secretary. A committee report on minimum fee schedules was received, and a tentative official schedule was adopted. Mr. R. A. Raymond, Wichita, Secretary of the Kansas Crippled Children Commission, was introduced, and requested an invitation from the society for a diagnostic clinic to be held in Ottawa. A motion extending this invitation was defeated. The need for a standard milk ordinance in Ottawa was discussed, and a resolution favoring an ordinance of this kind was directed to the city commissioners. Drs. H. L. Chambers and W. O. Nelson, Lawrence, attended the meeting to receive information concerning the Franklin County plan for medical care of indigent persons.

Dr. F. W. Koons, Halstead, presented a case report on "Anaphylaxis from Pituitrin in an Obstetric Case", and Dr. A. G. Isaac, Newton, a paper on "Prostatic Massage, Its History, Technique and Diagnostic and Therapeutic Value" at a meeting of the Harvey County Medical Society in Newton on November 5. During the business portion of the meeting, medical care of indigent persons was discussed, and decision was made that the Society should participate in the 1935 tri-county meeting with Marion and McPherson counties.

Two recent meetings of the Johnson County Medical Society are reported. On October 15 a clinic arranged by Dr. James Weaver, Kansas City, was presented at Bell Memorial Hospital, Rosedale. This consisted of a craniotomy case, a case diagnosed as miliary tuberculosis, and a case of scleroderma. On November 12 the society met at Olathe, and Dr. Don Carlos Peete, University of Kansas, was a guest speaker on "Myocardial Disease."

Twenty-four physicians and their wives attended a meeting of the McPherson County Medical Society at McPherson on November 14. Drs. C. A. Parker and E. Gillette, Wichita, were on the program.

The Sedgwick County Medical Society met in Wichita on November 2 with Dr. H. L. Beye, Iowa City, Iowa, presenting a paper on "The Significance of Jaundice in Diseases of the Biliary Tract." On November 20 another meeting was held with Dr. J. R. Caulk, St. Louis, Missouri, speaking on "Some Urethral Problems."

Dr. M. L. Perry, Topeka, and his staff led discussion at a meeting of the Shawnee County Medical Society at the Topeka State Hospital on November 5.

